

Vol. IV
TRANSCRIPT OF RECORD
(Pages 1619 to 2293)

(TRANSCRIPT OF TESTIMONY)

Supreme Court of the United States

OCTOBER TERM, 1955

No. 3

UNITED STATES OF AMERICA, APPELLANT,

vs.

E. I. DU PONT DE NEMOURS AND COMPANY, ET AL.

**APPEAL FROM THE UNITED STATES DISTRICT COURT FOR THE
NORTHERN DISTRICT OF ILLINOIS**

FILED JUNE 14, 1955

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[fol. 3638]

Redirect Examination

By Mr. Carpenter:

Q. Mr. Kettering, you said on cross-examination something to the effect that the du Pont Company continued to manufacture tetraethyl lead for the Ethyl Corporation until the patents expired.

I call your attention to Government's Trial Exhibit No. 799, which is the manufacturing service agreement between the Ethyl Gasoline Corporation and the du Pont Company, dated January 1, 1938.

I ask you whether that refreshes your recollection as to when the Ethyl Corporation commenced to operate its own plants and had the du Pont Company as its agent manufacturing for Ethyl at Deepwater?

A. This had to do with the plant down at Baton Rouge and Deepwater both.

Q. That is right.

A. I didn't know just exactly when that was because it was during this period right in here that I didn't go to very many of the Ethyl Board meetings. I was developing the locomotive engines and high compression automobile engines, so I didn't attend many of these meetings.

Q. Does that refresh your recollection?

A. Yes, it does.

Q. That from that date forward the Ethyl Corporation was the manufacturer and du Pont was the agent for them?

A. Well, that I didn't remember.

Q. One other thing I wish to cover. You were referred to a letter of Mr. Zimmerschied, dated October 28, 1919. I think it was Government's Exhibit No. 599.

I ask you if that was before the merger actually took place between General Motors Corporation and Dayton [fol. 3639] Metal Products Corporation. I show you now a paper dated September 25th, 1919—I will give you a

copy, Mr. Harsha. I have sent for some and they will be here in a few moments.

I ask if this is not the resolution of General Motors Corporation, Board of Directors, dated September 25th, 1919, which gives the date that the merger agreement between Domestic Engineering Corporation and General Motors, the Dayton Wright Corporation and General Motors, and Dayton Metal Products Corporation was approved by the Board of Directors of General Motors?

Mr. Harsha: Are you introducing this?

Mr. Carpenter: I will give you a copy.

Mr. Harsha: Your Honor, it seems to me this is rather irregular procedure. We have all operated throughout this trial under the terms of the pre-trial order, and I think both sides thus far have tried to give counsel on the other side copies of whatever documents are being introduced. It seems to me we are departing from the framework of that order.

The Court: If this is something that counsel has overlooked previously—

Mr. Carpenter: We did not think it would be material, but since that letter indicates the doubt in the mind of Mr. Kettering as to when he first went into General Motors and when he would have first been connected with that, I think it is important.

The Court: If it is being introduced, the Court will reserve its ruling until counsel has had an opportunity to study the document.

[fol. 3640] Mr. Harsha: I might also add that on direct examination the testimony was elicited that this merger took place of Dayton Metal Products with General Motors in December of 1919—

Mr. Carpenter: That is correct.

Mr. Harsha: And now we have a document which indicates it is sometime earlier than that. If that was known to counsel, it seems to me we are being somewhat prejudiced here.

Mr. Carpenter: No. The merger was negotiated as we set forth when the stock was transferred or exchanged December 19, 1919, but the agreement to merge was made September 25, 1919.

By Mr. Carpenter:

Q. Where were you when Mr. Zimmerschied's letter was written?

A. I was in Europe. I was over there on certain work, and all that was done while I was away.

Q. Who carried forward the negotiations?

A. Mr. Talbott and Colonel Deeds. I never did any stock business or anything like that.

Q. In other words, the business was transacted by your associates when you were in Europe?

A. That is right.

Mr. Carpenter: That is all.

Recross Examination.

By Mr. Harsha:

Q. Mr. Kettering, on cross examination I showed you this document written by Mr. Zimmerschied, and you said the document was wrong, if I recall, which showed that you [fols. 3641-3643] were then, in September or October of 1919, acting as a Director of Research for General Motors.

Would you like to correct your statement as to that question?

A. No, I wasn't wrong. I was in Europe. That was written after I had left America, and I knew nothing about that. Nobody ever said anything to me about it, and they didn't until I got back.

Q. When were you appointed Director of Research?

A. I was appointed Director of Research after this deal was consummated when we came in, when all my interests had been taken over by General Motors.

Q. Is this the September date we now hear about or was this the December date?

A. No, no, it was not.

Q. Which was it, sir?

A. December.

Q. The December date?

A. Yes. What he should have said was that I was to be appointed, and then he would have had it all right, because I knew nothing about that letter at all.

Mr. Harsha: That is all.

Mr. Carpenter: That is all, sir.

(Witness excused.)

[fol. 3644] Mr. Carpenter: Mr. Webb, will you take the stand?

EARL W. WEBB, called as a witness on behalf of the defendants, having been first duly sworn, testified as follows:

Direct Examination.

By Mr. Carpenter:

Q. Mr. Webb, will you state your name?

A. Earl W. Webb.

Q. Where do you reside?

A. 290 Park Avenue, New York City.

Q. You were the president of the Ethyl Gasoline Corporation from about 1925 until your retirement in the spring of 1948, is that not right?

A. That is right, from April 1, 1925; I retired as chairman of the board in 1948.

Q. Where were you educated, Mr. Webb?

A. Well, I spent three years at Trinity College in North Carolina. I transferred to the University of Michigan.

Q. You transferred to the University of Michigan?

A. Yes, sir, in 1902.

Q. After that did you practice law?

A. Yes. I went to New York and worked for the American Tobacco Company at 111 5th Avenue in 1902 for three or four months, then I went to the New York Law School and was admitted to the Bar in November, 1904.

Q. And from then on?

A. Well, I spent a year in an investment banking house on Wall Street. Then I became a clerk in a law firm.

Q. Did you practice law there?

A. I practiced law until August, 1922, when I went with General Motors.

Q. Were you engaged in the general practice of the law, trying cases and so on?

A. Yes, sir.

[fol. 3645] Q. From General Motors' New York office where did you go?

A. I did not get that question.

Q. From General Motors' New York office, where did you go?

A. I was never in General Motors' New York office. I had no connection with General Motors at all until I was employed as a general attorney of General Motors in charge of their Detroit office.

Q. Were you assigned to the sale of surplus real estate as mentioned in a letter written to Mr. Sloan by Irene du Pont?

A. It so happened at that time the Legal Department and the Real Estate Department were combined, and I was head of both. I don't know that I ever sold any real estate for General Motors. I bought some for them.

Q. Did there come a time, Mr. Webb, when you were invited to accept the presidency of General Motors Corporation?

A. Yes, sir.

Q. Who asked you to do that?

A. Mr. Sloan.

Q. How long was that, Mr. Webb, before Ethyl discontinued its business or shut down?

A. Well, I say Mr. Sloan asked me. He asked me to come on to New York after I had made a survey of the Ethyl situation for about three weeks. And I went to New York and Mr. Sloan said that Mr. Teagle, who was then head of the Standard Oil Company of New Jersey, had agreed that he should select the president of the Ethyl Corporation, and he thought of me. Mr. Teagle had never seen me. He asked me to go downtown to see Mr. Teagle, and I did, that day.

Mr. Harsha: Your Honor, may I—

The Witness: So that when I came back, Mr. Sloan told me that I was the new president of Ethyl Corporation.

The Court: I think there is an error here.

[fol. 3646] Mr. Harsha: Yes, I am completely confused by this line of testimony. He was asked whether he was asked to become president of General Motors, then he was talking about Ethyl.

The Witness: Oh, I thought he was asking about the Ethyl Gasoline Corporation.

The Court: Yes, sir. I think there was an error there.

Mr. Carpenter: I think I am the one who led him down the wrong road.

By Mr. Carpenter:

Q. What was the first job you had, Mr. Webb, as president of the Ethyl Gasoline Corporation?

A. Well, I had learned, during this investigation covering about three weeks, some of the problems, and to me the most important one was the health situation. There had been adverse comment on it, which created unfavorable publicity about the problem.

Q. They called it "looney" gas, did they not?

A. The New York World did.

Q. Do you remember the recommendation you made to the Board of Directors at the first meeting you attended?

A. I did not make any recommendation at the first meeting I attended.

Q. Do you remember making a recommendation concerning the continuance of the business?

A. About ten days afterwards, I think it was, on the 4th or 5th of May.

Q. And as a result of that recommendation, and the Board adopting it, what did the company do?

A. I would not say that it was the result of my recommendation. I would say at the time I recommended it, I had the feeling that the Board felt the same way I did [fol. 3647] about it, and the resolution was passed suspending the sale of lead to be used in gasoline.

Q. Following that came the Surgeon General's investigation into the subject, did it not?

A. At that time, I think it was at the same meeting, I was requested by the Board to write a letter to the Surgeon General of the United States telling him what action we had taken, and requesting that an investigation be made if one had not already been decided upon by him, and stating that we would be very happy to render any services we could in such an investigation.

Q. Now, at that time, Mr. Webb, did the Ethyl Gasoline

Corporation have outstanding any contracts for the manufacture of any of the products used in its business?

A. Yes.

Q. Who had those contracts?

A. The principal ones were the Dow Company and the du Pont Company.

Q. Did you negotiate the settlements of those contracts?

A. Yes.

Q. Did you succeed in settling those contracts?

A. Yes.

Q. Now, after the Surgeon General's conference, and the appointment of his committee and the filing of their report, which was in favor of the sale of gasoline containing tetraethyl lead in certain limited quantities, did you negotiate a new contract for supplies with the du Pont Company?

A. Yes, sir.

Mr. Harsha: Your Honor, I object to the form of the question. I think he is putting in statements of fact to the witness.

The Court: Sustained.

[fol. 3648]. Mr. Carpenter: The contract is in evidence. That is the reason I put it that way.

By Mr. Carpenter:

Q. What did you do, Mr. Webb, towards the resumption of business after the Surgeon General's Committee had filed its report?

A. The two most important things, as I recall it, was the production of the product, and we tried to get the oil companies to accept it.

Q. What did you do towards getting production of the product, namely ethyl fluid, or tetraethyl lead into which ethyl fluid was mixed?

A. I carried on negotiations, as I remember now, chiefly with Mr. W. S. Harrington, who was general manager of the Dyestuffs Department of the du Pont Company.

Q. That resulted, did it not, in the contract which is in evidence, three contracts, or two contracts dated March 31, 1926?

A. I don't know whether they are in evidence, but I know the contract was dated that date.

Q. I will give you the numbers, if counsel wishes.

Now, you said the second thing you had to do was to contact the refiners and see if they would use your product?

A. Yes, sir.

Q. Do you remember a trip that you made to the West in the spring of 1926?

A. Yes.

Q. Do you remember contacting or coming in contact with a situation in Denver?

A. Yes, sir.

Q. What was that?

A. I went to Denver to see the Continental Oil people who had not been handling or using ethyl, and before going there I had been informed that a product supposed to [fol. 3649] be tetraethyl lead was being distributed to retail outlets in the city of Denver.

While talking about the possibility of Continental using our products with Mr. Ed Karstedt, he was vice president in charge of sales, sometime during the course of the conversation either he or I brought up the subject about the distribution there in the city, of leaded gasoline.

Q. Did you get in contact with the people who were making or selling that product?

A. Yes, through Mr. Karstedt.

Q. And what was the name of the product they were using?

A. They called it Rethyl, R-e-t-h-y-l, and it was colored red the same as ethyl had been colored.

Q. And your product was ethyl gasoline, and they were using the name "Rethyl" gasoline?

A. Yes, they put the "R" before the "e" and that was the only difference.

Q. Did you have a conference with those people?

A. Yes, sir.

Q. Did you ascertain how they were manufacturing and selling your product?

A. Well, they told me—there were two of them, Mr. J. N. Huff, and a Mr. Proffitt—I think it is P-r-o-f-f-i-t-t.

Mr. Huff told me when I met him at the Brown Hotel that he was the president of the American Serum Company in Denver, and they manufactured a serum for hog cholera, and that Mr. Proffitt was a chemist, and either he or Mr.

Proffitt told me about the production of tetraethyl lead by them.

I told him that I had heard about the fact that they were selling it to some retail oil stations in Denver.

I asked him how they were handling it.

He said they mixed it in ordinary containers and took [fol. 3650] it around to the filling stations and left it there, and let the filling stations mix it as they saw fit.

I asked him if those were the only precautions he was taking, and he said yes. I asked him how he manufactured it, and where he manufactured it, and he said as a part of the hog serum laboratory on the edge of town.

He then told me that he was manufacturing it under what was known as the Grignard process—I think it is spelled G-r-i-g-n-a-r-d, using magnesium instead of sodium.

I asked him how many men were employed, and he said oh, just a few, five or six, I think he said.

I asked him what precautions were taken in the manufacture, and he said none whatever.

I said, "Do you wear hoods or gloves or anything of that kind; rubber aprons or anything?"

"No," he said, "we handle it like we would any ordinary product."

I said, "It is surprising that someone hasn't died in your outfit."

I think he said they had been doing this for about a month. I said also, I think, "It is not a very businesslike thing for you to practically appropriate our name, as well as the color of our product."

Q. As the result of that, Mr. Webb, what did they agree to do?

A. I told him I was going to California, that I had made an appointment with Mr. Karstedt to come back and see him.

Q. As a result of that did you see him on your return to Denver?

A. They told me before I left that they would discontinue the manufacture of tetraethyl lead, and they wouldn't [fol. 3651] sell any more of the product to any of the oil people in Denver until I returned from California.

I was away, I think, maybe a week on that trip to the West Coast, and when I came back I saw these gentlemen, and I am pretty sure at that time I saw Mr. Healy, their lawyer. I don't remember his first name.

And they said that they had not manufactured any since I left, and they had delivered none.

Q. As the result of that, did you come to an agreement with them of any kind?

A. I told them at that time that I had discussed the manufacture of tetraethyl lead with the Dow Chemical people covering quite a period of time during the period of suspension of our business, and that they had told me if they went into the business they were going to use the Grignard process, and of course, use magnesium.

Incidentally, they had told me they got their magnesium from Dow, so far as I know the only magnesium being produced in the United States was produced by the Dow Chemical Company. They seemed to think, however, that they could make this product and sell it to us, make a profit on it by selling it to us at 90 cents a pound.

We had just made a contract with du Pont at one dollar a pound.

So, of course, that was interesting to me, and I wanted to encourage their interest in it and let us have an opportunity to find out whether or not there was anything valid in it. So we made a contract. I cannot tell you who drew that contract. I believe Mr. Healy did what you would normally call the legal work on it.

I think I cooperated in its preparation. But our side must have been executed in New York, in the New York office, because just in the last few days I have been shown this contract, and I saw Mr. Mittnacht, secretary and [fol. 3652] treasurer of our company, signed it also.

Q. Is he alive or dead?

A. He is dead. And he attached the seal, so I know he wasn't in Denver. At least, I never heard of his being there at that time.

Q. By the way, Mr. Webb, was that a firm contract for manufacture or—

Mr. Harris: If the Court please, we object to any statement as to the contents or nature of the contract unless it is produced or accounted for.

The Court: The contract is the best evidence.

Mr. Carpenter: That is right.

The Court: Sustain the objection.

By Mr. Carpenter:

Q. Mr. Webb, following the preparation of that contract, did you have a further conference with these gentlemen?

A. Yes; sir.

Q. With Mr. Huff?

A. Yes.

Q. Where was that conference held?

A. In Chicago.

Q. Following that conference, what did you do?

A. Mr. T. B. Huff, a brother of this first gentleman, J. N. Huff, and Mr. Proffitt, and I met at the Blackstone Hotel.

We had a further discussion, and I talked again about the Dow people having a process using magnesium. I said, "If your process should be used, you would have to get magnesium from Dow because nobody else makes it."

So I suggested we go over to see the Dow people, if it was agreeable to them. They said that was perfectly all right, and I called up Dr. Herbert Dow, who was the [fol. 3653] founder and then president of the Dow Chemical Company, and made an appointment with him for the next morning.

So we went over from Chicago to Midland, Michigan. Mr. T. B. Huff, Mr. Proffitt and I spent all the forenoon there, had lunch together, and these two gentlemen, Dr. Herbert Dow, his son Willard Dow, who was quite young in those days, a Dr. Britten, Mr. Bennett, who was the treasurer of the company, and Gilbert Carrie, who was the counsel for the company, and myself.

At the conclusion of the meeting, Mr. Huff, who by the way had stated to me that he was the man who was financing this Denver operation so far as tetraethyl lead was concerned, stated to me that he thought it was rather foolish for them to think of going into the manufacture of this product, because it was quite evident the Dow people had a great deal more experience than they had.

As a matter of fact, they hadn't had any in the chemical field. It was his suggestion that we cancel that contract.

Q. Whose suggestion?

A. Mr. T. B. Huff.

So we just called it off, and then we went over and spent the afternoon playing golf together, the four of us.

Mr. Harris: May we have the date of this conference?

Mr. Carpenter: It appears in the Dow depositions as June 25 or 26, 1926.

Mr. Harris: Thank you.

Mr. Carpenter: I now offer, if the Court please, General Motors Exhibit No. 268, a letter of June 15, 1926, from Mr. Webb to J. N. Huff, American Research Laboratories, Inc., Denver, Colorado.

[fols. 3654-3655] (Said document so offered and received in evidence, was marked General Motors Exhibit No. 268.)

Mr. Carpenter: This reads as follows:

"Very glad to get your report on laboratory yield.

"As I understood it you were not to make any definite commitment for equipment until after there had been the opinion by Mr. Morrison on the question of novelty, and therefore, I have not expected to receive the plans referred to in your letter of the 9th until after Mr. Morrison's opinion.

"In other words, it was not intended that you should undergo any expense by way of preparation until there was to be performance of contract."

I now offer, if the Court please, General Motors Exhibit No. 269, a letter dated June 15, 1926, to Mr. Gilbert A. Currie, Dow Chemical Company, Midland, Michigan.

The Court: What is the number?

Mr. Carpenter: GM 269.

(Said document so offered and received in evidence, was marked General Motors Exhibit No. 269.)

By Mr. Carpenter:

Q. Did you send that letter to Mr. Currie, Mr. Webb? Your signature does not appear to be on it.

A. Will you give me time to read it?

Q. Surely.

A. Yes, I recall that letter.

[fol. 3656] I now offer, if your Honor please, General Motors Exhibit No. 270, a letter from Mr. E. W. Webb the witness, to Mr. T. B. Huff, Secretary of American Research Laboratories, Inc., Denver, Colorado, dated June 30, 1926.

(Said document, so offered and received in evidence, was marked General Motors Exhibit No. 270.)

[fol. 3657] I now offer General Motors Exhibit No. 271, a letter from the American Research Laboratories by T. B. Huff to Mr. E. W. Webb, president of Ethyl Gasoline Corporation, dated July 9, 1926.

(Said document so offered and received in evidence was marked General Motors Exhibit No. 271.)

[fol. 3658] By Mr. Carpenter:

Q. Does that, Mr. Webb, that series of letters that I have just read, show the confirmation in writing of the cancellation of this contract that you had?

A. Mr. Carpenter; did you purposely omit the second paragraph in your reading?

Q. Yes, I wanted to shorten it.

Did you, at the meeting in Midland, Michigan on June 21st, referred to in the last letter, speak to the Dow Chemical Company concerning their manufacture of tetraethyl lead?

A. I don't recall going into it at any length. I do know that on quite a number of occasions I had discussed with Dr. Herbert Dow the possibility of their manufacturing tetraethyl lead for us.

These conversations occurred during the period I was trying to adjust our commitments with them, during the suspended period, and I met them fairly often during that period in connection with the cancellation.

Q. Did they ever ask you for a contract to manufacture lead?

A. They did not ask for a contract to manufacture. I told them we would be very much interested in their going into the matter of manufacturing if they felt they could do it at prices that would warrant our making such a contract, primarily from a price standpoint.

[fol. 3659] Q. What was their decision? What was the decision of the Dow Chemical Company towards the manufacture of tetraethyl lead?

A. Dr. Herbert Dow told me that his chief concern was what they could produce magnesium for if they got into large quantities. He seemed very much concerned as to whether he could make it at a cheaper price than using sodium. He said he felt that they were ideally situated to manufacture tetraethyl lead because they were large manufacturers of ethyl chloride which is a very important product that goes into the manufacture of tetraethyl lead. There is about nine-tenths pounds of ethyl chloride to every pound of tetraethyl lead, which product was a necessary mixture to be added to the tetraethyl lead to make ethyl fluid.

I told him it would be very practical to us because we had an exclusive contract with the Standard Oil of Indiana to run for several years, and I told him, as I recall it now, that the Standard of Indiana operated in thirteen of the Midwest States, and if we could have a plant nearer to their operations, it would probably be very helpful from the standpoint of freight, both incoming and outgoing, and also, I had confidence from what I had known of the Dow Chemical Company in their ability to handle the manufacture of quite a number of products in the chemical field. I had no reservation in my own mind that Dr. Dow would not take on an operation that he did not feel he could perform satisfactorily. That was my impression of the organization.

Later on he said they decided not to go in, and as I remember it, their primary reason was the hazards involved in the manufacture of the product.

[fol. 3660] Mr. Carpenter: I now offer, if the Court please, General Motors Exhibit No. 272, a letter dated August 26, 1926, from Mr. Webb, the witness, to Mr. T. B. Huff, Secretary, American Research Laboratories, Denver, Colorado.

(Said document so offered and received in evidence was marked General Motors Exhibit No. 272.)

[fol. 3661] I now offer in evidence General Motors Exhibit No. 273, a letter from the witness, Mr. Webb, to Mr.

Harold H. Healy, of Lee, Loughbridge & Healy, Foster Building, Denver, Colorado, dated October 7, 1926.

(Said document so offered and received in evidence was marked General Motors Exhibit No. 273.)

[fol. 3662] By Mr. Carpenter:

Q. Was the decision, Mr. Webb, that you made to cancel the agreement with the American Research Laboratories affected in any way by Irene du Pont or any objection that he made to that contract?

A. Not in the slightest.

[fol. 3663] Mr. Carpenter: If the Court please, I now offer General Motors Exhibit No. 274, which is a letter by Frank A. Howard to Mr. William Benham, Department of Justice, Washington, D. C., dated April 21, 1927, entitled "History of the Ethyl Gasoline Corporation."

(Said document so offered and received in evidence was marked General Motors Exhibit No. 274.)

Mr. Carpenter: The first paragraph says:

"In accordance with your request, I am giving you herewith statement of the history of the Ethyl Gasoline Corporation. I think this will be clearest if reduced to narrative form."

By Mr. Carpenter:

Q. Mr. Webb, I show you Government's Trial Exhibit No. 716. It is a letter from J. E. Crane to Mr. Irene du Pont, dated 6-25-26, and annexed to it being the suggested form of a letter from the Ethyl Gasoline Corporation to I. G. Farbenindustrie A.G., Ludwigshafen an Rhein, Germany.

Did you ever see that letter before this suit was filed, or ever send such a letter to the I. G. Farben?

A. You will have to pardon me. I never saw this letter, the parts that I have read up to now. I never saw this document until I took the witness stand.

Q. I see.

A. There is nothing in this letter I ever read before coming from Mr. Crane, coming to the I. G. Farben Industry. I never saw this letter before.

Q. Thank you very much.

Now, Mr. Webb, the record shows that the Ethyl Gasoline Corporation made a series of contracts with the du Pont Company from 1926 to January 1st, 1938, or a little prior to January 1st, 1938. Who negotiated those contracts for and on behalf of Ethyl Gasoline Corporation?

A. I did.

Q. These I referred to were for the production of tetraethyl lead by du Pont for the Ethyl Gasoline Corporation year by year?

A. I think there were two or three of them that ran for two or three years.

Q. A couple of the earlier contracts, and also there were a couple of contracts for the du Pont Company to blend tetraethyl lead into ethyl fluid?

A. Yes, sir. I didn't negotiate those contracts, Mr. Mittnacht did.

Q. Then there were four contracts that were put in evidence between the Ethyl Gasoline Corporation and the du Pont Company dated January 1, 1938. One was called the manufacturing and service agreement, and the other the license agreement, and the other was a lease agreement, and the other a financing agreement.

Who negotiated those contracts with the du Pont Company?

A. Well, the negotiation of those contracts covered a period of two years. I remember one case where Mr. Frank Howard was present. On all other occasions that I can remember, in direct negotiation, Mr. John Schaffer and Mr. Mittnacht accompanied me to Wilmington. I was reporting whatever progress was made during that period of negotiating to Mr. Frank Howard, primarily, and not to the same extent but in the high spots to Mr. Sloan, because they and I constituted the Executive Committee of the Ethyl Gasoline Corporation. It was our job to carry through the deal, and if we could, then submit it to our Board of Directors.

[fol. 3665] Q. Did you give us the date, Mr. Webb, when the Ethyl Gasoline Corporation first commenced to operate its own plants for the manufacture of sodium, ethyl chloride, and tetraethyl lead?

A. We began right away, January 1, 1938.

Q. That is through the du Pont Company as agent for Ethyl?

A. Yes, sir.

Q. But did there not come a time when the ethyl—

A. I beg your pardon. I don't believe the du Pont Company had anything to do with the operation of our ethyl chloride plants at Baton Rouge.

Q. That was a process that was not a du Pont process, was it not?

A. Well, at one time we did produce some of the ethyl chloride, I believe, under the du Pont process, but we soon abandoned that, because we were getting ethylene gas from the Standard Oil Company of Louisiana, which was next door, and we purposely located our plant so it would be next to that refinery in order to be able to get the spent gases from the refinery to make ethyl chloride.

Q. Who selected the location of your plant which was later located at Baton Rouge?

A. Well, I went down with Mr. John Schaffer who had been with us from the beginning, and had been located at the Deepwater plants for the du Pont Company since we had been in business there. He was a chemical engineer, and a graduate with an M. S. degree from MIT, and we went together. He knew the problems from an operation standpoint, I felt, very well.

Mr. Harris: May we have the date of this?

Mr. Carpenter: The date?

[fol. 3666] The Witness: It was, I think, in 1936. That is my best recollection. It may have been 1935. We were told by the general manager of the Standard Oil Company of Louisiana that he thought a site just to the north of theirs would be a good location, particularly if we were to get any advantages from being near their refinery. He introduced me to Mr. Knox who owned the property, and I negotiated with him and bought the property for the Ethyl Gasoline Corporation. I think it was two hundred acres.

By Mr. Carpenter:

Q. Mr. Webb, by the end of December, 1947, how large was the Baton Rouge plant, the operation there?

A. We had put in \$36,000,000 or \$37,000,000 there. We had a plant under construction that cost \$6,000,000, which would be about \$44,000,000.

During the month of December our Executive Committee recommended to our Board, which approved it, the first week of January, 1948, the expenditure of an additional \$27,000,000 or \$28,000,000.

Q. At Baton Rouge?

A. Baton Rouge.

So we had built and under construction and approved expenditures forty-four plus twenty-seven, or \$71,000,000.

Q. When did you first learn that the du Pont Company intended January 1, 1948 to go into the business of manufacturing and selling tetraethyl lead in competition with the Ethyl Gasoline Corporation?

A. I can't answer that. I had the feeling all along that they were going to do that, but I think about a year before the expiration of our agreement with them an announcement was made by the du Pont Company that they were going in the business.

[fol. 3667] Q. Was their entry into the business of manufacturing and selling tetraethyl lead in competition with the Ethyl Gasoline Corporation because of any agreement, arrangement or understanding with the Ethyl Gasoline Corporation?

A. None whatsoever.

Mr. Harris: I object to that unless he states whether he knows about it. The question should be asked as to his knowledge.

Mr. Carpenter: He was president of the company, Mr. Harris.

Mr. Harris: That doesn't make any difference.

The Court: I think the form of the question is proper. Overruled.

By Mr. Carpenter:

Q. Have you ever heard of any such arrangement, understanding, or agreement between the Ethyl Gasoline Corporation and the du Pont Company, such as is charged in the complaint in this case?

Mr. Harris: It doesn't appear that he has read the complaint. I object to the form of the question unless he has.

The Court: Sustained as to that portion of it.

By Mr. Carpenter:

Q. Have you read the complaint in this case, Mr. Webb? Are you familiar with the allegations of the complaint in this case?

A. I wouldn't say too well; I remember reading a copy that was sent to me about two or three years ago when the thing started, but I haven't seen it since, so I can't say that I know what the complaint is.

Q. Well, I will put it this way: Have you ever heard of [fol. 3668] any contract, agreement or arrangement of any kind between the Ethyl Corporation on the one hand, and the du Pont Company on the other, to the effect that when the Ethyl Gasoline patents expired, the du Pont Company should be set up in competition with the Ethyl Corporation having assigned to it an allocated portion of the business?

A. No.

Mr. Harris: If the Court please, I object to the form of the question. If counsel is going to recite from the complaint, he should recite that portion which he is asking the witness about.

Mr. Carpenter: I made it broader than the complaint.

The Court: As I understand the question is not based on the complaint.

Mr. Harris: Oh, all right.

Mr. Carpenter: I didn't attempt to quote the allegations of the complaint. I made it broader than the complaint.

Mr. Harris: I assumed that is what counsel was doing.

The Court: That is the Court's understanding. Overruled.

By Mr. Carpenter:

Q. Mr. Webb, did you do anything, following the du Pont public announcement that it intended to go into the business of manufacturing and selling tetraethyl lead, to get ready for the competition you anticipated commencing January 1, 1948?

A. I didn't get the first part of your question.

[fol. 3669] Mr. Carpenter: Will you read the question, please?

(Question read.)

By the Witness:

A. I do not believe there was any connection between their announcement and what we did. Realizing that they were going to be in competition, we built a terminal near Wilmington, Delaware, to take care of what we termed tank truck shipments of tetraethyl lead, and also the probable handling of tank car shipments of tetraethyl lead.

We had been delivering to small refineries in Pennsylvania, New York, and eastern Ohio tetraethyl lead in tank trucks. It is a very expensive product, and a good many of these small refineries couldn't afford, at least they didn't feel they could, to take a tank car of the fluid.

I may be wrong about this, but my impression is that a tank car of fluid costs around \$15,000.00 or \$17,000.00, something like that. As I say, I may be wrong about that because it has been quite a while since I had occasion to think about that.

This terminal was designed primarily to take care of tank truck deliveries to refineries, feeling on our part that we would be so far away, Baton Rouge was, from those small refineries that I have just referred to, that we would be unable to make tank truck deliveries to them in competition with Deepwater, which was only a few miles away from the terminal we built.

Just south of Los Angeles, right in the oil refining area, we built another terminal.

By Mr. Carpenter:

Q. When were those built, those terminals, Mr. Webb?

A. Well, I think they were completed before the end of [fol. 3670] 1947, but I am a little bit hazy about that, Mr. Carpenter.

Q. During the war had it been possible, and up until sometime in 1947, to get materials because of the war endeavor and limitation on materials for Ethyl to increase its plants at Baton Rouge?

A. We took complete possession of the plants at Baton Rouge in September, 1945, shortly after VJ Day. I don't

believe at that time or for some time immediately after that that the need for additional plants was imminent because we had been bursting at the seams at Deepwater and Baton Rouge, the du Pont Company and ourselves, exerting, I think, the best effort each organization could put forth to produce enough tetraethyl lead for the armed forces, particularly the Air Force.

So that in 1944 and 1945 the major portion of our business went to the armed services. The moment that business stopped, I think the year following, in 1946, our sales were one hundred million pounds or nearly one hundred million pounds less than they had been during the years of 1944 and 1945.

So the question of materials, availability of materials for plants at that particular time I don't think was an important item with us.

Q. Now, following January 1, 1948, has the Ethyl Company increased its manufacturing and selling capacity at places other than at Baton Rouge? You told us about \$71,000,000.00 appropriated for Baton Rouge.

A. Well, to date—when I say to date, this was up until a week ago. I got figures from the Ethyl Corporation—I am still a director of the company—showing that they put in \$92,000,000.00 altogether in Baton Rouge.

They have built since a new plant 15 miles out of Houston [fol. 3671-3672] on the Ship Canal, and the first phase of it has been completed at a cost of \$41,000,000.00.

Q. What can you say about any competition that has existed between the du Pont Company and the Ethyl Corporation since January 1st, 1948?

Mr. Harris: I object to the form of that question as to what he can say about it.

The Court: Sustained as to the form.

Mr. Carpenter: I didn't want to ask a leading question.

By Mr. Carpenter:

Q. Mr. Webb, can you state whether or not since January 1, 1948, the Ethyl Corporation has been in competition with the du Pont Company for the business of the refiners of this country?

A. My feeling is that we are doing everything that we know how to do to get all the business that we can.

Q. Have there been any ties of any kind to your knowledge between the du Pont Company and the Ethyl Corporation since January 1, 1948?

A. No, sir.

Q. Has there been any agreement of any kind between the two companies to your knowledge for the division of the business of manufacturing and selling tetraethyl lead?

A. No, sir.

Mr. Carpenter: You may cross-examine.

Mr. Harris: May we have a recess before cross-examination, your Honor.

[fol. 3673]

Cross-examination.

By Mr. Harris:

Q. Mr. Webb, calling your attention now to your testimony about the visit to Denver, where you had a discussion with Mr. Huff, as you recall?

A. Yes, sir.

Q. When was that visit?

A. Well, it was, I think between the 10th and 15th of April, 1926.

Q. Now, before that time, had you discussed with Dow the possibility of there being a second source for tetraethyl lead?

A. Yes, sir.

Q. Now, when was your first discussion with Dow?

A. Well, I am sure that the discussions—some of them took place in the year 1925.

Q. Yes.

A. After we closed down.

Q. Now, you became president in April, 1925?

A. Yes, sir.

Q. How soon after you became president, did you have discussions with Dow as to being the second source for tetraethyl lead for the Ethyl Gasoline Corporation?

A. Well, we had talked in that direction in the event we resumed business, but I think most of our more serious discussions were after the Surgeon General's report in 1926.

Q. Yes. It was not the intention, was it, Mr. Webb, to

have Dow supply tetraethyl lead during the shut-down?

A. Oh, no.

Q. Now, what was the composition of their tetraethyl lead solution?

A. Well, the three products used in the manufacture of tetraethyl lead, we will say, was pig lead, ethyl chloride and metallic sodium.

I might state here, if you wish to have the information, there was substantially seven-tenths of a pound of pig lead [fol. 674] for each pound of tetraethyl lead, and about nine-tenths of a pound of ethyl chloride for each pound of tetraethyl lead, and I think .35 pounds of sodium for each pound of tetraethyl lead.

To answer further your question——

Q. Thank you.

A. So far as I know, I certainly am not even a high school chemist, but the primary difference was they were going to use magnesium instead of sodium and use ethyl chloride, of course.

Q. Now, the magnesium would take the place——

A. Pardon me. I don't know whether they used ethyl chloride or not, but I assumed they did.

Q. The new element was magnesium, was it?

A. That is right.

Q. Had you had a discussion with them in 1925 about using magnesium?

A. Well, I didn't have much to do. I had a job, but I had nothing particularly to do except to try to clean up the old contracts. I did not know whether we were coming back into the business or not.

I think I did a lot of talking with Dr. Dow about many things in connection with the possible resumption of this, and it was during that time that he mentioned to me the fact that they might be interested in the manufacture of tetraethyl lead using magnesium.

I did not bring up the subject in the first place.

Q. I see. Now, which Dow was that?

A. Dr. Herbert Dow.

Q. It would be your understanding, would it, Mr. Webb, that Dow would have to use a different solution? He would [fol. 3675] have to have different elements than the solution, or whatever it is that was being used by Ethyl Corporation, would he not?

A. I understood that the principal difference that he was emphasizing was the use of magnesium instead of sodium.

Q. Yes, and that was a Grignard process, was it?

A. That is right.

Q. Were you satisfied that that would not be an infringement of the Ethyl patents or of the Standard Oil and General Motors' patents?

A. Well, it didn't make any difference to us if he was willing to make a contract with us, and we were satisfied, we owned the patents. It didn't make any difference whether they infringed it or not.

Q. You mean Ethyl owned it?

A. Yes.

Q. And before you came to these discussions, did you have any discussion with either, any of the du Ponts, anyone from General Motors, or anyone from Standard Oil about Dow becoming a second source of supply and using magnesium?

A. I think I discussed the matter primarily with my associates in the Ethyl Corporation, at 25 Broadway.

Q. Who, for instance?

A. Well, Mr. Midgley was vice president and Mr. Frank Howard was a vice president, and Mr. Art Maxwell was a vice president, and Mr. Mittnacht was secretary and treasurer. And we used to sit around our offices there with nothing particularly to do and talk about both the possibilities of the future and they became interested in it when they heard that Dr. Dow had broached the subject to me.

I became much more interested in it when we got the favorable report from the Surgeon General, and knew we were going to renew business.

Q. With respect to that favorable report of the Surgeon General, how long before you went to Denver had that come in, if it had come in?

A. I think the report was made in January, 1926. I don't know whether it was published then, but the report was in then.

Q. And you were then in Denver in April?

A. In April.

Q. Now, before you went to Denver, this was simply to get another customer, to get Continental Oil as a distributor?

A. That was the purpose, my main purpose in going to Continental Oil.

Q. Now, had you discussed with any of your associates the possibility of your finding another source out west of tetraethyl lead?

A. No, I can't remember any such discussion.

Q. As a matter of fact, when you got to Denver and having the talks that you had, you learned for the first time of this American Research Laboratories, did you not?

A. I heard of it for the first time, of the name, but I heard of the product being distributed to retail stations in Denver beforehand.

Q. Was that before you went to Denver?

A. Yes, sir.

Q. And was that what caused you to go and see the American Research Laboratories?

A. That was the only reason.

Q. Did you have in mind getting a second source for tetraethyl lead?

A. I didn't have in mind having those people do it at that time. That thought didn't occur to me.

Q. Well, you had in mind, Dow, didn't you?

A. Yes, distinctly so.

Q. Had you had in mind anybody else but Dow?

A. I don't know what any of us had in mind.

[fol. 3677] Q. I am speaking of your mind.

A. No, I don't think so.

Q. Now, let's get through this American Research Laboratories. What was the occasion of your going there? Did you call up and make an appointment?

A. Someone connected with the Continental Oil Company arranged it.

Q. All right. Whom did you see when you went there, or did you go there, or did they come to you at Continental?

A. No, they didn't come to me at Continental. They came to me at the Brown Hotel. It was an evening appointment with Mr. Huff and Mr. Proffitt.

Q. Give us that conversation as near as you can recall it.

A. Well, I remember Mr. Huff stating that he was the president of the American Serum Company, and they were engaged in the business of producing a serum for hog

cholera. He introduced Mr. Proffitt to me as a chemist, and I don't know whether he said they stumbled on this tetraethyl thing or not, but he mentioned the fact that Mr. Proffitt was responsible for it.

Q. Did you discuss then the process by the name of the Grignard process?

A. He mentioned it to me.

Q. And was there any discussion there of possible patent infringement of any other process?

A. I can't remember whether on that occasion I mentioned to him the Midgley patent.

Q. Yes, and did you talk with him about Dow?

A. Yes, he told me he was getting his magnesium from Dow.

Q. And had he told Dow, if you know, what he was doing with the magnesium?

A. I don't know.

Q. Then will you go on from there to the making of the contract. Just tell us the next step, how the conversation [fol. 3678] went on to the making of the contract.

A. I don't think there was any discussion at that time of the making of the contract at all. I was very much concerned about the health hazards in connection with it. I readily appreciated the fact that if they had a catastrophe in Denver we would have a repetition of what we had in Bayway.

Q. Well, what did they do?

A. The way they were handling it was a very careless way from my viewpoint.

Q. What did they do to set your mind at rest before you signed the contract?

A. Well, I told them I was going out to the West Coast to call on the oil companies out there. They had never used ethyl. I told them when I got through with my trip I intended to come back and see the Continental people. They wanted to think over what I had talked over with them about using it, so I arranged to come back, and see them, and they said, "Well, we won't manufacture any of this stuff, and won't distribute any of it until you come back" so we didn't talk about a contract in that first period.

Q. No, I would like to get to the contract, however,

what led up to the making of the contract. What talks did you have or what letters did you write?

A. That is after I came back.

Q. All right. What did you do after you came back about getting a contract?

A. Well, as I said before, they stated that they felt competent that they could manufacture and make a profit, a decent profit, and sell us lead at 90 cents a pound.

Q. Ten cents under du Pont?

A. That is right. I don't think I mentioned what we were paying du Pont. I think they mentioned that they [fol. 3679] could sell it for 90 cents a pound to us and make a profit.

Q. I say, which was ten cents less.

A. Which was, yes. I didn't want to leave a situation like that cold. This was a new venture we were in, the Ethyl Gasoline Corporation. Nobody had ever been in anything like it before.

Q. You mean it was a new venture that Ethyl was in?

A. Yes, the making of an anti-knock compound to improve the anti-knock quality of gasoline. It was something new, and we had run into a lot of difficulties which have already been referred to, yesterday particularly by Mr. Kettering, on the health end of it.

I was keenly alive to the fact that if we could get a process that might not be as hazardous as the process that had been employed where the trouble occurred that would be a very important accomplishment.

I did get the impression when I talked to Dr. Dow on several occasions, he said under the Grignard process, as I remember it, there was not the same vapor pressure that you had under the process that we had used at Bayway and the du Ponts had used at Deepwater.

Q. Do you mean by that that it wouldn't be necessary to take the same precautions in the manufacture under the Grignard process as you would under Ethyl's tetraethyl lead process?

A. Well, I think he didn't at all minimize the importance of caution. But he rather felt that maybe there was a chance that it could be manufactured under the process that he was thinking about without the hazard that was associated at that time with the use of ethyl chloride and sodium.

Q. I see. Well, then did that in your mind sort of [fol. 3680] relieve your fears about the hazards of the manufacture in this Denver laboratory?

A. I think when you get the contract you will find there is set up in there precautionary measures covering that point.

Q. Before you got to the contract stage, Mr. Webb, did you receive a written communication from American Research Laboratories offering to supply this mixture at 90 cents a pound?

A. The contract so provides.

Q. No. I am asking you before the contract was entered into, did you get an offer in writing?

A. No.

Q. What did you get in writing before the contract, if anything, or how did they convey to you that it would be 90 cents a pound?

A. In the second conversation that I had with them, the one when I returned from the coast to Denver.

Q. Did they tell you anything about their capacity for production?

A. They didn't go into that very much in detail. They said they were making it in a very small place attached to their serum plant, and there were only four or five men engaged in it, and I didn't figure it was much of an operation.

Q. Did you, at that time, talk to their lawyers?

A. Yes, Mr. Healy.

Q. Did they bring Healy to you or did you go to Mr. Healy's office?

A. I can't remember that.

Q. All right, sir.

Do you remember what further discussion, if any, there was before the drafting of a contract.

A. Oh, I spent a lot of time in talking to them and Mr. Healy about the troubles that we had experienced and the importance of the care that should be exercised, not only in the manufacture but the handling of the concentrated [fol. 3681] material.

The contract provided that any plant they built—it was to be a small scale operation, as I remember it; to produce 35,000 pounds a month—and it is agreed in the contract that they will follow the rules and regulations of the Sur-

geon General which had then been issued, and that they would follow all the rules and reasonable recommendations made by our Medical Department.

Q. That satisfied you, didn't it, that it would be reasonably safe to let them go ahead?

A. I felt that we controlled that situation under the terms of the contract.

Q. Now, who drew the contract?

A. We could cancel it at any time, by paying \$10,000.

Q. Who drew the contract?

A. I think Mr. Healy was the lawyer who drew the contract, and I must have assisted him. In reading the contract, he has names in there that I don't think he would know anything about unless I told him.

I mentioned the fact that they were to make a patent application and that was to be approved by the firm of Church & Church.

Q. Who were patent attorneys, I assume?

A. Patent attorneys, or Mr. Joe Morrison, who was then patent attorney for General Motors.

Q. Did that contract come to you by mail?

A. Why, I think it did. I know they didn't come to our office at that time, and the contract is signed by our secretary and treasurer and our seal attached.

Q. What I wanted to get at was, when you first saw the contract in its completed form, did it bear the signatures of the American Research Laboratories?

A. Yes.

Q. So that it probably came to you by mail, from Denver, in that form?

A. I think so.

[fol. 3682] Q. Now, when it did come to you, what did you do with it?

A. Well, I don't know exactly what you mean.

Q. Well, what I meant was, what did you do towards further completing, that is, towards the completion, that is towards the signing of it? Did you take it up with anyone in your firm, or did you see any lawyers, or what did you do?

A. The application was prepared, as I remember it for a patent, and was sent to Mr. Joe Morrison who is in the Patent Department of General Motors, and who had handled all the anti-knock applications made by Mr. Midg-

ley or by anyone in General Motors relating to anti-knocks, and he was loaned to us by General Motors.

Q. That is, loaned to Ethyl?

A. That is right, that is for consultation.

Q. Yes?

A. And as I remember it, that patent was sent to Mr. Morrison.

Q. Before you sent—

A. I mean the application.

Q. Yes, that is the application for the patent?

A. That is right, yes.

Q. And he was to look it over to see whether there was any infringement on what they already held, is that right?

A. Yes.

Q. Before you sent that to Mr. Morrison, with whom, if anyone of General Motors, did you talk about this contract?

A. Oh, it was taken up by either our Executive Committee or our Board and approved.

Q. Now, the Executive Committee of Ethyl consisted of whom at that time?

A. I am not sure that at that time we had an Executive Committee.

Q. So it would not be taken up with them, would it?

A. I say I am not sure. We may have had at that time, but I am not sure. Shortly after—I would not say shortly [fol. 3683] after, but not long after the resumption of business, the Board set up an Executive Committee consisting of Mr. Howard, Mr. Sloan and myself.

Q. Mr. Sloan was from General Motors; Mr. Howard was from Standard Oil, and you were from Ethyl?

A. That is right.

Q. As a matter of fact, most of the decisions of any importance that were made after that, were made by the Executive Committee, were they not?

A. That is right.

Q. You do not recall, however, whether this contract was submitted to your Executive Committee, do you?

A. Well, I know that Mr. Sloan knew about it.

Q. That is what I would like to know. How did Mr. Sloan come to know about it?

A. I think the records will show that Mr. Sloan was present when it was favorably acted upon, that contract.

Q. Was it favorably acted upon by the Board?

A. I have already stated I do not know whether it was by our Board or our Executive Committee, and I don't know whether we had any Executive Committee in April of 1926.

Q. Did you sign it?

A. Oh, yes, I signed it.

Q. Did you have to have the authority of the Board before you signed it?

A. I don't know whether I had to have it, but it was the sort of thing that I would ask the approval of the Board before I would sign it.

Q. So that can we understand, so far as you and your associates in Ethyl were concerned, that contract was satisfactory to them?

A. That is correct.

Q. And as far as Mr. Sloan of General Motors was concerned, did you record any objection by him?

A. Subsequently I knew that there was an objection by [fol. 3684] him. That came through Mr. Irene du Pont.

Q. Yes. But at the time you first told him about it, was there any objection by him that you recall?

A. No, I don't think so.

Q. Had there been, you probably would not have gone ahead, would you?

A. If Mr. Sloan had objected to it, I am sure that we would not have gone ahead, and I believe if any other director had objected that we would not have gone ahead, any active director.

Q. Was Irene du Pont a director at that time?

A. He was not at the meeting. I know that.

Q. So that he was not there to register an objection, if he had any?

A. That is right. He was not there.

Q. Now, after the contract was signed, what did you do with it?

A. I just stated some of the things we did.

Q. No. After it was signed by you people, what did you do with the contract then? Did you send an executed copy to the American Research Laboratories?

A. I assume so. I have no recollection on a thing of that kind.

Q. Now, did you have a further conversation or communication from the American Research Laboratories from

the time you signed that contract until June 2, 1926, if you know?

• Will you give the witness Government's Exhibit No. 711, a letter from Mr. Irene du Pont to you.

A. Yes, I have seen this letter.

Q. My question was, before that letter came to you, had there been any further movement in this matter of the American Research Laboratories?

A. I don't think so. I believe the American Research Laboratories' contract was signed only three or four days [fol. 3685] before this letter was written. I think April 30th was the date of the contract.

Q. Now, Mr. Webb, Irene du Pont, in this letter of June 2nd, 1926, addressed to you, of which a copy was made and sent to Mr. Sloan, and a copy to Mr. Harrington—

Who was Mr. Harrington?

A. Mr. Harrington was the general manager of the Dyestuffs Department.

Q. Of du Pont?

A. Of du Pont.

Q. Yes. I call your attention to the first paragraph:

“Referring to the minutes of the Executive Committee, covering their meeting of May 27th, paragraph 3, copy of which Minutes were returned to you signed under cover.”

Would that indicate to you that there had been a meeting of the Executive Committee?

A. Yes, that clears up this doubt that was in my mind as to whether we had an Executive Committee at that stage.

Q. So that the Executive Committee apparently from these minutes—we don't have them there—but I assume had acted favorably on this contract, and that Executive Committee was composed of Mr. Sloan, Mr. Howard and yourself?

A. That's right.

Q. Now, Irene goes on:

“Notwithstanding that I am in an embarrassing position by reason of the fact that the du Pont Co. supplies you with tetraethyl lead, I am obliged to go

on record as disproving in principle of the placing of orders for that material with the American Research Laboratories for the following reasons."

And he gives his reasons as:

[fol. 3686] "1st—They avoid a pressure reaction by using ethyl bromide and to that extent are on the same ground as our old bromide method of manufacture, which condition we agreed was undesirable because of the shortage of bromine."

Now, this magnesium, I take it, would go along with the ethyl bromide. It would indicate that wouldn't it?

A. Mr. du Pont thought so, but it was not true.

Q. It was not true?

A. No. Paragraph 1, I think, in my reply that Mr. Sloan wrote me about this letter, and you have probably got it in the record, and I stated that he was in error regarding that. I understood there would be no ethyl bromide used in that process. That is my recollection.

Q. So objection No. 1, in your opinion, was not valid, was it?

A. I don't think so, as I remember it now.

Q. (Reading):

"2nd—They"—

that is the laboratory—

"evidently are not conversant with the true dangers from poisoning and are using make-shift apparatus where poisoning becomes not only likely but almost a certainty."

Now, if you know, how did Mr. Irene du Pont learn what apparatus the American Research Laboratories was using?

A. Well, it must have been just a general impression on his mind.

Q. Well, you mean that any concern that competed with du Pont would be using those methods?

A. No, I think he would assume, and I was very skeptical [fol. 3687] at the time I was having these negotiations with this concern—

Q. Yes?

A. (Continuing)—about their ability to perform, and I think when you read the contract it indicates very clearly that I was not convinced—

Q. But you had protected yourself, hadn't you?

A. We did in the contract.

Q. That's right.

A. And I would say just offhand, Mr. du Pont or anyone else familiar with tetraethyl lead at the time would have thought that its production in a hog serum plant was not a very good place to produce the product.

Q. True, but you were willing—

A. And he knew that at that time.

Q. But you were willing to take a chance, weren't you, and the Executive Committee of Ethyl was willing to take a chance, weren't they?

A. Not at all on having it—it was to be a works plant built.

Q. Oh, yes.

A. And approved by us and the plants were to be furnished by us for the building, and the building and supervision of everything in connection with it was to meet the approval of our Medical Department.

Q. That was provided in the contract?

A. Yes.

Q. And that contract was available to Mr. Irene du Pont to look at, wasn't it?

A. It certainly was.

Q. (Continuing):

“If another disaster happens in Colorado no amount of explaining will excuse our directors for having encouraged novices to undertake such a dangerous operation.”

[fol. 3688] Had it, if you know, in the opinion of Mr. du Pont, been expressed to you at any time that only the du Pont Company could make this material safely?

A. No.

Q. He had not said that to you?

A. No.

Q. (Reading):

“This seems doubly undesirable in view of the fact that the substitution of lead sulphate for metallic lead

cannot occasion any material saving in cost of manufacture and the substitution of magnesium for sodium would be expected to yield no saving whatsoever."

Now, Mr. Irene du Pont was being concerned, was he, in this, that the Ethyl Corporation should not enter into a financially unprofitable contract? Would you say that?

A. No.

Q. What would you say about Mr. Irene du Pont's objection? Was it to the fact that a competitor was on the horizon?

A. Well, I think what he is trying to point out here is—I don't know whether he got this information through the patent application that was sent in to us or not—

Q. I was about to ask you that.

A. I don't know where that information came from. He is talking here as a chemical manufacturer—

Q. Yes, sir?

A. About certain constituents that go in the manufacture of tetraethyl lead—

Q. That's right.

A. —and trying to point out, as I take this letter, to Mr. Sloan that it cannot be done any cheaper by this process than the one we were then engaged in or had been.

Q. Yes, but they were willing to do it in the American Research Laboratory, and as far as you were concerned they were going to charge you ten cents a pound less?

A. Yes, and that was the thing that made it attractive [fol. 3689] to me, and also to our Executive Committee.

Q. (Continuing):

"Consequently the method they are using should not be inherently any better than the bromine method, which has been supplanted at Deepwater Point; and consequently there is no financial advantage for Ethyl Gas and the Research Corporation jointly over the alternate supply by du Pont and Ethyl Gas jointly."

Well, now, wasn't Mr. Irene du Pont in error on that, as far as Ethyl Gas was concerned, there was an advantage of ten cents a pound, wasn't there?

A. There was an advantage. I don't know how long that would continue, but there was then set up a ten cents a pound difference.

Q. And if American Research couldn't manufacture at that figure, that was their hard luck, wasn't it?

A. They had a way out of the contract. They were not very responsible people financially.

Q. No?

A. I had had them looked up between the time I went to the coast and came back, and their rating was not awfully good.

Q. Was that before you signed the contract, Mr. Webb?

A. Oh, yes.

Q. You went ahead and signed anyway?

A. No, we knew that they were not a very strong concern. They were rather weak financially.

Q. But you were taking a chance, weren't you, to get that extra ten cents a pound?

A. It wouldn't have made any difference to me if some-[fol. 3690] body walked in my office with a process that seemed to be attractive in the manufacture of tetraethyl lead, whether the fellow had ten cents or ten million dollars.

We would have been happy to look into it, and see whether or not it had something better than we knew anything about.

Q. Right.

"But even if there were,"——

he says, if they did have a financial advantage,

"—the risk of a serious catastrophe of poisoning is too grave to be considered."

Now, as a matter of fact, Mr. Webb, you and the Executive Committee of Ethyl had considered, had you not, the danger of poisoning and had provided for safety methods under the regulations of the Surgeon General's office in your contract?

A. You mean which contract?

Q. The contract with the American Research Laboratories.

A. Yes, we provided for it.

Q. He says:

"I hope that you will understand that it is only my feelings of the seriousness of such a move that causes me to put myself in an embarrassing position of refus-

ing to acquiesce in the Executive Committee's judgment."

Now, at that time Mr. Irene du Pont was a member of the Board of Ethyl—wasn't he?

A. Yes, sir.

Q. And he had, in a fashion, a sort of veto or at least a right to make an objection as a director of the corporation?

A. He certainly did.

[fol. 3691] Q. Now, after you had received the objection of Mr. Irene du Pont, what, if anything, did you do about this contract with the people in Denver?

A. Well, we had the meeting to which I have referred in Chicago; and went to Midland, so that they could compare notes, so to speak, with the Dow people who had stated to me that they could produce lead using magnesium under the Grignard process.

Q. Well, what I would like to know is how did they come to come to Chicago? Did you write them, wire them, telephone them, tell them there was any trouble about their contract?

A. Well, I think what has gone in evidence shows that—I mean today—

Q. Yes, sir.

A. —that the Dow people had, in response to a communication I made with them, either by letter or telephone or télégram, to put me at liberty to disclose anything that they had mentioned to me regarding their process.

Q. That was to disclose that to your board?

A. No, no, to these people.

Q. To the American Research?

A. The American Research, yes.

Q. Yes, sir?

A. And since they were both using magnesium, presumably under a fundamental Grignard process, which, by the way, I don't know what that means, but I had heard that it is an old chemical process that has been used for, oh, I don't know how long, but for many, many years before lead was thought of—tetraethyl lead—and since they were using the same process and they were buying their magnesium or had been buying it from the Dow people, I had the definite feeling it would be a very good idea

for these people to get together and see whether or not [fols. 3692-3693] the Denver people had a process that was more attractive than the one Dow had, and vice versa.

Q. Now, this was after the contract was signed, wasn't it?

A. Oh, yes.

ADJOURNMENT

[fol. 3694] Cross-examination (Continued).

Mr. Harris: Mr. Hoyt, will you show the witness, please, Government's Exhibit for identification No. 1313.

By Mr. Harris:

Q. I show you now for identification Government's Exhibit No. 1313, and ask you if you will look at the facsimile of the signatures on the last page but one, and tell us if that is a facsimile of your signature?

A. It is.

Q. Have you seen this document before, the original?

A. Yes, sir.

Q. Can you say whether this is a true copy of the contract that was signed by you and by Huff on the date it bears?

A. Well, if this exhibit is the same as the contract that Mr. Carpenter showed me within the past few days, I would say it is the same.

[fol. 3695] Mr. Harris: Can we agree on that, Mr. Carpenter?

Mr. Carpenter: Yes, we can.

Mr. Harris: Then I offer in evidence Government's Exhibit No. 1313, the contract in question.

(Said document, so offered and received in evidence, was marked Government's Exhibit No. 1313.)

By Mr. Harris:

Q. Mr. Webb, will you look at that contract, and I call your attention to the first paragraph on the first page, that:

"Whereas, the Research Company represents that it is the owner of a secret process for the manufacture of tetraethyl of lead for which it is about to make application for letters patent of the United States."

Now, that was the process that you have testified to, wasn't it?

A. Yes, sir.

Q. With the use of magnesium?

A. Yes, sir.

Q. Now, I call your attention to page 3, and the fourth and fifth paragraphs on the page, and without reading them you will agree, will you, that these paragraphs provide for safety precautions?

A. Yes, sir.

Q. I call your attention now to the paragraph on page 4, the sixth paragraph, and this provides, does it not, for the production in the first instance of 17,500 pounds of tetraethyl per month?

A. That is correct.

Q. Then going over—

A. May I say that I apparently was in error yesterday. I said I thought it was 35,000. This is accurate.

[fol. 3696] Mr. Harris: That is all right, sir.

By Mr. Harris:

Q. Then on page 5 the price is shown of ninety cents a pound, and then on page 7 there is a provision for the mutual cancellation of the contract after a certain period of performance, with a graded penalty from \$7500 down—for the various units of installation.

Now, there was also a provision, I believe, that the contract could be terminated almost immediately on paying \$10,000.00. That is in the sixth paragraph on page 4—at any time during the period of eight months Ethyl should have the right at its option to terminate the contract on giving thirty days' notice, and in consideration of the option it should pay to the Research Company \$10,000.00.

Now, you testified, Mr. Webb, that Mr. Huff asked you to terminate the contract.

Can you recall now the conversation, just what was said by him, what was said by you, and when this was?

A. It was in the building, the offices of the Dow Chemical Company in Midland on the occasion when I said a group of us met there in Dr. Herbert Dow's office.

Q. That was about June 29, 1926, wasn't it?

A. I think that is correct.

Q. Who was present then when Mr. Huff either asked you or suggested that you cancel the contract? Who heard that?

A. I cannot answer that question. I heard it.

Q. Oh, yes, sir.

A. Who else heard it, I don't know.

Q. Now, tell us what he said.

A. Well, he told me, as I remember it—it would be rather silly for them to attempt to go ahead in view of what he had heard that day.

Q. And then did he say to you—well, give us the rest [fol. 3697] of it, about the cancellation of the contract.

A. Well, he said, "I think we ought to cancel the contract", and I said, "I think so, too."

Q. Now, when you went up to Dow in Michigan, you took him along with you, or did they come there and you come afterwards, or how was that? Did you all meet there?

A. No, we left the Blackstone Hotel, and got on the train or whatever it was that night and went to Saginaw.

Q. Had anything been said before you went to Michigan about the cancellation of the contract?

A. I don't think so.

Q. Will you search your memory on that, please?

A. Well, it wouldn't help me any.

Q. Now, Mr. Huff was present, I take it, at the meeting

Q. He was?

A. He was present?

in the Blackstone? Mr. Huff was present?

A. Yes, Mr. Huff and Mr. Proffitt, that is Mr. T. B. Huff.

Q. Was Mr. Proffitt present at the time when Mr. Huff said, "We better cancel the contract"?

A. My best recollection is that he was present.

Q. Now, Mr. Webb, what was it, if you know, that induced Mr. Huff to volunteer the cancellation of this contract?

A. Well, I can only draw my own conclusions.

Q. Yes, sir.

A. I think he appreciated the fact that he didn't have anything very novel as a result of the conversation that had taken place in Dr. Dow's office.

Q. So that he learned—

A. And also—may I continue?

Q. Oh, yes, I am sorry, sir.

A. Also the fact that he appreciated that it would be necessary to get the basic raw materials, magnesium, from Dow.

[fol. 3698] Q. Yes, sir. Wouldn't that be possible? Wouldn't that be possible?

A. Oh, yes, I am sure Dow would have sold anybody magnesium at that time.

Q. Well, did Dow discourage him?

A. I don't think Dow took the position at all either to encourage or discourage.

Q. Then how did he come into the frame of mind to want to cancel the contract?

A. I cannot answer that question.

Q. I see. Now, I call your attention to General Motors Exhibit No. 268. That was a letter of June 15, 1926, to Mr. Huff.

Now, on June 15, 1926, you had not made any suggestion to Mr. Huff, that the contract might be cancelled?

A. I am very sure that I had not.

Q. You had not?

A. No.

Q. What was the report that you then got on laboratory yield? Do you know what the report was?

A. May I have that question again? I was reading.

Q. Yes. I was wondering if you knew what the laboratory yield was on June 15, 1926, that they reported to you.

A. I don't recall that.

Q. Now, the question of novelty of the application was still pending before Mr. Morrison, your patent attorney, wasn't it, as appears from this letter?

A. Yes, sir.

Q. Did you ever get an opinion from Mr. Morrison on novelty?

A. I don't remember.

Q. Certainly not before the cancellation of the contract, did you?

A. I don't believe I did.

Q. I call your attention now to General Motors Exhibit No. 269, which is a letter from you to Mr. Currie, of the [fol. 3699] Dow Chemical Company, June 15, 1926, in which you tell him that you have shown a copy of his process to the people with whom you were negotiating in Denver who believed they had something new.

Now I call your attention to the next paragraph,

"I have made an arrangement with these people which might develop to the point of someone manufacturing tetraethyl lead by their process."

And you sent a copy of the application.

When was it after that letter of June 15 that you asked the Denver people to come to Chicago?

A. I can't answer that question, the exact date.

Q. When you asked them to come to Chicago, did you have in mind their going up to Dow with you?

A. I am not quite sure about that, Mr. Harris. In the first place, I think our meeting in Chicago was a convenience for Mr. T. B. Huff as well as myself.

Q. Why?

A. Well, Mr. T. B. Huff was living in Sioux City. He was a prominent man there. He was the Mayor of the City.

We compromised on the meeting place. We agreed on Chicago, and we met at the Blackstone Hotel. Whether I had in mind going over to Midland at that time, I do not remember.

Q. What was the purpose of his coming to Chicago then?

A. Well, I wanted to talk over the whole matter with him.

Q. That was after you had received Mr. Irene's letter?

A. Mr. Irene's letter had nothing in the world to do with it.

Q. I say, it was after you had received Mr. Irene's letter.

A. I think it was after June 2nd.

[fol. 3700] Q. And after you received Mr. Irene du Pont's letter that we have in evidence here, Government's

Exhibit No. 711, did you talk to Mr. Irene du Pont about the subject of this contract?

A. I don't believe I talked to Mr. Irene du Pont. I talked to Mr. Sloan about it.

Q. All right. When did you talk to Mr. Sloan?

A. Well, I went in quite some detail into the context of the contract that is now in evidence with him.

Q. Yes?

A. I tried to convince him that proper safeguards, I thought, would be thrown around such a small production as we had in contemplation under the contract.

He knew, of course, I would rely upon Dr. Robert Kehoe, who then was and is today, I believe, the outstanding and recognized man on lead poisoning in the world.

The du Pont Company and ourselves relied upon him implicitly. Apparently the Surgeon General of the United States, not only then but ever since, has recognized him as such. He was the man who was going to look after this operation. It was to be run under his supervision.

He had been down to Deepwater and knew about what the situation was there. He had been to Bayway after the occurrence. Mr. Midgley brought him in from the University of Cincinnati, at the time, I believe, of the existence of the General Motors Chemical Company.

Q. Well, you told Mr. Sloan that with Dr. Kehoe examining these people and these processes, everything would be all right. Is that what I get from your answer?

A. No, I never assured anybody everything would be all right handling lead. I haven't done that even today.

Q. Do I understand that you are telling us that you told Mr. Sloan that Dr. Kehoe would look after the safety pre-[fol. 3701] cautions?

A. Well, I think, I am quite sure I mentioned that, as the outstanding thing.

Q. Now, what did Mr. Sloan say about the contract and Mr. Irene's letter?

A. I don't know other than the fact he seemed to be disturbed about it.

Q. Yes?

A. And I discussed it with my associates in the office and with Mr. Howard, and we were convinced that Mr. du Pont was unduly alarmed about the matter. We wanted

to go ahead with it, and we did pursue the subject after the agreement to cancel and its actual cancellation.

Q. What did Mr. Sloan say about getting rid of the contract?

A. He never suggested we should get rid of any contract.

Q. What did he say, if anything?

A. I don't know that he said anything. I can't remember his comments.

Q. When he expressed his disturbance, what was he disturbed about?

A. He was disturbed—and yesterday when you asked me whether or not I thought if Mr. du Pont or any other director had objected to this contract, whether we would have entered into it, I said I thought we wouldn't have entered into it because we had been through an awful lot of trouble. I think everybody was quite frightened, and maybe I was a little bit too bold in making this contract.

I felt, however, it could be handled safely. I really believe if Mr. du Pont had been present at a board meeting or any other director and had interposed serious objection to our making such a contract, the board would not have approved it. But we made the contract, and so far as I know we have never gone back on any contract we ever made.

Q. Did you offer Mr. Huff any other proposition in lieu [fol. 3702] of the contract that he voluntarily surrendered?

A. Nothing was said that I can recall at Midland about that, but it seems to me somewhere along the line after that conversation the question came up that if they really did have something, and I think we sent one of our top chemists out there to examine their product in August, that we might consider a royalty arrangement.

I am not sure of that, but that is the best impression I have today.

Q. I call your attention now to General Motors Exhibit No. 271. What was Mr. Huff referring to in the first and second paragraphs:

"This is to confirm the verbal understanding reached at Midland, Michigan, Friday, June 25th, and which is set forth in your letter to us, June 30th."

I don't appear to have that letter.

"We still feel the plan adopted in Michigan is the only feasible one, and we will be ready for Dr. Calingaert, August first."

Now, what was that plan?

Mr. Horsky: The letter of June 30th is General Motors Exhibit No. 270.

Mr. Harris: Thank you very much. I have it now.

By Mr. Harris:

Q. What was the plan?

A. As I recall it, we were to send one of our men out to Denver to look into their process.

Q. Now, was it on that understanding that the contract was mutually canceled?

A. No, that had nothing to do with it. It was mutually [fol. 3703] canceled quite regardless of that. I wish you would let me finish my previous answer.

Q. I am sorry.

A. We also stated that the same man would go to the Dow Chemical Company and investigate there and make a report to us. That is my recollection.

We certainly followed up, and sent Mr. Calingaert, who was the director of our chemical research, to Denver, and he got a sample, and you have in the record yesterday a report of what he found.

Q. Now, I call your attention to General Motors Exhibit No. 270, which confirms the cancellation of the contract, in the first paragraph, which provides for Calingaert witnessing a demonstration, and then I call your attention to the last paragraph on the first page, which is the second page here:

"If we should decide to adopt your method, then an agreeable royalty basis is to be worked out between us."

Was that statement or suggestion made to these people before they canceled the contract?

A. I don't think it was. I think, however, it may have been discussed at Midland. I do know that we thought of

some sort of a royalty arrangement with them in the event we should find there was some value to it.

Q. With that in view, Mr. Webb, what was the occasion or necessity for canceling the contract?

A. Well, I think the occasion for canceling the contract was fairly well covered in my previous testimony, that here was an outfit that had never had any experience in this kind of business, going into a venture about which they knew nothing, because, apparently, they were manufacturing what they thought was tetraethyl lead, but it did not turn out to be that. They realized, of course, when they went to Midland and saw the Dow plant, which covered almost half of the town, it would be rather foolish for [fol. 3704] them to venture into anything of this kind.

I think it was more convincing to Mr. Huff, who impressed me as being a very able business man.

I think at that time he had just a serum plant in the middle west. That is my impression.

Q. I call your attention to the same paragraph, the last sentence:

"Needless to say, it is of prime importance to first ascertain whether your process has any advantages over those already known to us and we believe, as expressed by you in our last interview, this can best be done by following out the plan above outlined."

Did you tell them that if their process did have these advantages, they would go on with the work for you?

A. No, I did not tell them that. I do recall they made the statement that they thought that they had a special catalyst. What it was, I don't know.

Q. Well, with the prospect, Mr. Webb, of their process turning out the way it was suggested it might turn out, what reason was there, other than what you have given us, for the cancellation of the contract?

A. I know of none.

Q. Now, let us go to another subject, Mr. Webb, I am going to call your attention quite rapidly to a series of contracts, most of which were, as you have stated, negotiated by you.

I first want to call your attention to Government's Exhibit No. 678, which is a letter of Mr. Sloan to Mr.

Irenee du Pont, March 28th, 1925, discussing the present [fol. 3705] situation in Ethyl, and making the suggestion it would be necessary to put in a good businessman.

Now, Mr. Sloan mentioned you, Mr. Webb; as being his candidate for the presidency, and I would like you to tell us, please, why did he send you to Irenee du Pont?

Mr. Cox: I object to that, your Honor.

Mr. Harris: If you know.

The Court: He may answer if he knows.

By the Witness:

A. Mr. Sloan never sent me to Mr. Irenee du Pont. I never knew of this letter of Mr. Sloan to Mr. du Pont until this trial started. I had never seen it. Mr. Sloan asked me, about the 20th of March, if I would make a survey of the Ethyl Gasoline Corporation, and make a report to him as soon as I could.

Well, I told him I was pretty busy at that time, but if he would allow me about a month so that I could devote about two weeks of the time to the survey, and two weeks to attend to the office duties in Detroit, I would be very glad to undertake it, and I did.

I immediately started at that time to visit all the plants that were involved. I went to Dayton. Of course, I had seen the operation there before, but I went again, in the laboratory of Kettering there. I discussed the matter at considerable length with the Standard of Indiana people who were the largest distributors of the product then.

I am not sure whether I discussed it with Mr. Wilson at the time, but I knew him.

Q. You are now speaking of Mr. Wilson, who became president of Standard or was then president of Standard?

A. Yes, sir, president of Standard.

[fol. 3706] I discussed it with a number of the men.

By Mr. Harris:

Q. And you are discussing now your proposed presidency?

A. No, I was discussing the survey that I made.

Q. Oh.

A. And in time I landed at Deepwater, New Jersey, and I went over and went to the plant. Of course, I am not a

scientific man at all, but they took me around and showed me the operation and explained it, I think; as well as they could, for a lay person to understand. They took me around to their research laboratory there and showed me the entire setup. In the course of that trip, I met Mr. Irene du Pont for the first time.

Q. Now, Mr. Webb—

A. It had nothing to do, so far as I knew, about my presidency. As a matter of fact, I did not even know that I was considered for the presidency until about the 15th of April.

Q. I am going to call your attention to this statement in Mr. Sloan's letter to Mr. Irene du Pont, on the second page, second paragraph:

"The question then came to appointing a man and it just so happened; through force of circumstances which I need not to annoy you with, we have a man who has headed up our Legal and Real Estate Departments in Detroit. He is a lawyer by profession but a good business man as well. He has the confidence of our organization and I feel sure that when it comes to sound judgment and an orderly method of handling things, recognition of all the factors that enter into [fol. 3707] a decision, he will amply fill the bill. I discussed this matter with Mr. Teagle."

Now, who was Mr. Teagle?

A. He was then president of the Standard Oil Company of New Jersey.

Q. (Reading):

"—and subsequently arranged for Mr. Webb to meet Mr. Teagle, also Mr. Howard. Mr. Howard feels that Mr. Webb has a training that should qualify him for the job. Mr. Teagle feels likewise except that he has a natural reservation for any man who is legally trained entering into a proposition requiring more or less business administration."

Now, when you went to see Mr. Teagle, which was before this time, were you there in the capacity of a prospective candidate for the presidency?

A. I was not a candidate at that time. I didn't want the job, but I went to see Mr. Teagle anyway.

Q. Did you go to see Mr. Teagle with the understanding that Mr. Teagle would size you up to see whether you were satisfactory for the job of president of Ethyl?

A. I think that was the purpose, at least, of our meeting together.

Q. Now, I call your attention to General Motors Exhibit No. 88, and by the way, Mr. Webb, it was suggested, wasn't it, by Mr. Teagle or someone, that before you take up your duties as president, that you make a survey, and you make a report, and they judged you on that report?

A. I only learned that since this trial started. I did not know that Mr. Teagle had suggested it to Mr. Sloan.

Q. Now, General Motors Exhibit No. 88. I show you that and will ask you to read it.

A. Yes, I have read this.
[fol. 3708]. Q. Now, General Motors 88 says—and it is a letter from Irene du Pont to Alfred Sloan, and it is dated April 10, 1925, and says you have been in Wilmington, and went to inspect the tetraethyl plant:

“I had an opportunity of talking with him. It was short but decidedly re-assuring.”

Can you give us any idea of what you talked about that would re-assure Mr. du Pont?

A. I haven't the slightest recollection of that conversation. I could not tell you. I am glad I made a good impression on him, but I do not know anything about it.

Q. What I am interested in, Mr. Webb, is whether you made a good impression on him as a prospective candidate for president of Ethyl, and whether anything in your conversation would indicate to you that he was sizing you up.

A. Not at all. I previously answered that question. When I saw him I had no idea in the world that I was being or would be considered a “candidate,” as you refer to it, of the presidency of the company.

Q. I call your attention to his statement:

“The job——”

and I take it he means president of Ethyl——

"—needs somebody with reasonably forward vision and plenty of courage, coupled up with enough commercial instinct to obtain the profit which the traffic will bear."

Would you now, in the light of your experience, be able to tell us what traffic and what profit he was talking about? [fol. 3709] Mr. Cox: I object, your Honor. There has been no foundation laid for that.

The Court: Sustained.

By Mr. Harris:

Q. Now, had you discussed, after you came into the presidency of Ethyl—had you had occasion to discuss with Mr. Sloan the policy of more than one supplier of tetraethyl lead to Ethyl?

A. I am sure that subject never came up during the survey that I was making.

Q. Oh, I didn't mean that, no, no. After you became president.

A. Did I ever do what?

Q. Did you ever discuss with Mr. Sloan the policy of two or more suppliers of tetraethyl lead?

A. Oh, yes, a number of times.

Q. What was Mr. Sloan's position on that subject?

A. He was very favorable to it.

Q. You say he was?

A. I certainly do.

Q. Didn't Mr. Sloan express to you at any time the idea that du Pont should be the sole supplier?

A. Never.

Q. Were you familiar with the situation that arose when Standard Oil wanted to produce tetraethyl lead?

A. Not at all.

Q. When did you become president?

A. I became president April, 1925.

Q. Now, at that time was there in existence—oh, this was after Bayway, was it?

A. Yes, sir.

Q. Did Mr. Sloan ever tell you that he had never been in favor of Standard Oil producing tetraethyl lead?

A. No.

[fol. 3710] Q. I am calling your attention now to the first of the series of contracts that were entered into between the Ethyl Company and du Pont.

Now, I take it that you are familiar, or you were familiar with the background of the supply situation and the formation of the Ethyl Corporation when you got into the saddle in Ethyl Company, weren't you?

A. I had had a little experience before, because I organized General Motors Chemical Company, and I was on the Board just as a nominal unworking member of the Board, or non-working, I guess it would be.

Mr. Harris: Will you show the witness Government's Exhibit No. 668?

By Mr. Harris:

Q. That, Mr. Webb, is the agreement of the 1st of August, 1924, which envisages the creation of the Ethyl Company.

Are you familiar with that document?

A. Yes, sir.

Q. You say, "Yes, sir"?

A. Yes.

Q. I call your attention to page 5 of the document, paragraph 8:

"The Ethyl Company shall purchase tetraethyl lead or other anti-knock agent in the open market at the lowest price at which it is offered and, to permit competitive bidding, shall offer to instruct and license any bona fide probable supplier, including the STANDARD COMPANY; provided, however:

"Purchases shall be made from E. I. du Pont de Nemours & Company under the existing contract between it and GENERAL MOTORS, copy of which is [fol. 3711] attached hereto (Exhibit D), until the expiration of said contract or until a substitute therefor is made direct with the ETHYL COMPANY."

You were familiar with that provision, weren't you, when you became president?

A. Yes, after I became president I saw this document.

Q. Now, I will call your attention to Exhibit D which

begins on page 31 of the contract, and particularly to the Sixth Provision on page 41 of this document:

"It is understood that this agreement is to be a continuing one, and is subject to cancellation by the Purchaser only in the event of the Manufacturer failing to perform its obligations——"

So until du Pont failed, would you say there wouldn't be a look-in for anyone else, would there?

A. I don't know how you might interpret that. I think men might differ as to the—I am not prepared to answer yes or no to your question.

Q. All right, sir. The facts remain, however, do they not, that the du Pont Company was the sole supplier of tetraethyl lead until 1947—that is, first as an independent seller, and later, after 1938, as the manufacturing agent, is that right?

A. That's right.

Q. Now, I call your attention to Government's Exhibit 675, and that provides for the construction of a plant, and I call your attention to paragraph 8 on page 5:

"The Seller——"

That is du Pont.

[fol. 3712] "—agrees that it will not manufacture tetraethyl lead for any other person, firm or corporation"——

other than the Ethyl Company.

I call your attention to Government's Exhibit No. 703, which is a letter from Mr. Sloan to yourself, dated January 26, 1926, discussing in the first paragraph the very great importance that the cost of tetraethyl lead concentrated as received from the du Pont organization would assume in the operations of Ethyl Gasoline Corporation.

Now, did you encounter difficulty, Mr. Webb, in learning the costs or the basis of the price that was charged by du Pont to Ethyl?

A. Your word "difficult" is one that is rather difficult also for me to answer.

Q. Would another word be easier?

A. I can answer it this way: That we did not get the cost from the du Pont Company of this material they were manufacturing and selling to us.

Q. That would be rather important for you to know, wouldn't it?

A. Well, of course, it is important to every purchaser, but I never knew—I didn't ask Dr. Dow how much it cost them for the bromine that they sold us, never in my life. I didn't ask anybody else that we bought stuff from how much it cost them. I don't think that is customary in commerce.

Q. Well, let's put it this way. You got a price from du Pont. Now, out in Denver you got a price which was ten cents lower a pound.

It would be possible, would it not, during the years from 1925 to 1947 to have obtained prices from other companies?

A. I don't know.

[fol. 3713] Q. Did you ever try?

A. No.

Q. I call your attention to Government's Exhibit No. 705, and that is the letter from Mr. Irenee du Pont to Mr. Sloan, dated February 10, 1926.

This is the second paragraph:

"Admittedly I was somewhat ruffled at the lack of progress of the Ethyl Gas Corporation; also at their attitude on du Pont's proposition to make tetra-ethyl lead. We certainly have the hard end of the job, and questioning a few cents a pound, which means hundredths of a cent per gallon for our services, seems so very out of place compared with preemptory knocking off 50¢ or \$1.00 a pound, equivalent to the price charged for Ethyl Gas."

Does this refresh your recollection, Mr. Webb, as to whether or not you had tried to get du Pont to reduce its price?

A. Oh, yes.

Q. And did they reduce it?

A. Yes, they reduced it right along.

Q. Yes. I am speaking now of this time. We will come to the reductions later. But did they do anything in the way of a reduction that would reach the quarter of a cent

on gross sales that is being talked about, if you know?

A. I don't know.

Q. All right, sir. I call your attention now to Government Exhibit No. 706. This is the agreement of the 31st of March, 1926, and provides for the preparation of 600,000 pounds per month of Ethyl as shown on page 2, III.

I call your attention to page 7 of this exhibit, which pro-[fol. 3714] vides for a payment of \$1.00 a pound. That is the 31st of March, 1926.

Did you attempt, if you know, to have du Pont reduce its price from \$1.00 a pound at that time?

A. I don't think I did, because the contract that had been canceled as a result of the suspension of business provided for the dollar a pound, and we were simply reinstating in March, 1926, the price that existed at the time of the cancellation and suspension of business.

Q. All right. Let's come to the next contract, which is the 31st of March, 1925, Government Exhibit No. 745, and the price as appears on page 2, III, is \$1.00 a pound.

However, turning to page 4, you will find a graduated reduction for quantity down to 75 cents a pound.

Now, Mr. Webb, did you have any basis at the time that you entered into this contract for the Ethyl Corporation as to whether that dollar a pound and that graduated scale was a fair price for what you were getting?

A. Well, I don't think we questioned the unfairness of it at that time on the volume involved. You will note on increased volume the price gradually went down from 93 cents to 75 cents. The volume had a great deal to do with cost.

Q. Yes. When did you first learn, if you ever learned, of the formula that the du Ponts used in making their price?

A. I never heard of their having a formula for making their price.

Q. I call your attention now to Government Exhibit 747 which is a contract dated August 26, 1929, and you have again a graduated scale which brings it down, as you will see on the last page but one, to 60 cents a pound when you reach 1,300,000 pounds.

May I assume that you still had no standard as to the [fol. 3715] fairness of unfairness of this price.

A. We thought we were making progress.

Q. Yes.

A. At that time, in a period from 1926, when we resumed business, to August, 1929, to have gotten the price down from one dollar to sixty cents a pound as our volume increased. We felt we were headed in the right direction.

Q. Yes, and the only way you got that price down, I suppose, as I see it, would be by ordering more material?

A. That was the primary reason for the price.

Q. There was never any suggestion that a competitor could do cheaper than du Pont, was there?

A. Well, we had quite a few chemists in our organization. We didn't go into the cost of the du Pont Company. We knew the materials that went into the manufacture.

All of them, excepting sodium, were products that industry knew as a whole. That is, pig lead was a large volume. That was bought on the open market. Ethyl chloride, the Dow people were large producers of that. Their price was well known at the time.

Sodium was manufactured by the du Pont Company, and we didn't know what those costs were.

Q. It is fair to assume, isn't it, that during all of these years, Mr. Webb, you were continually trying to get the du Pont Company to reduce their prices?

A. I certainly did the best I knew how to do that.

Q. Did you ever take up this question of price with Mr. Sloan to see what he could do?

A. No, I never asked Mr. Sloan's help at all in any of the negotiations I carried on with du Pont. I thought if they didn't have enough confidence in me to carry on negotiations properly, they ought to get somebody else for the [fol. 3716] job that I had. I never asked his assistance.

I carried on negotiations alone, excepting I had the treasurer of our company, Mr. Mittnacht, who died in April, 1936, and after his death I had Mr. John Shaeffer, whose name I mentioned before, and his qualifications as chemical engineer, along with me.

Q. You didn't at any time call on Mr. Sloan, then?

A. Not for assistance. I reported to him and I reported to Mr. Howard.

There is one name that hasn't been mentioned that I

should mention. In the minutes creating the Executive Committee of our company, there was provision that in the event of the absence of any member of the committee, the absentee could appoint a substitute to act for him, and a gentleman by the name of Clark, Mr. E. M. Clark, substituted for Mr. Frank Howard.

He was vice president of the Standard Oil Company of New Jersey. He was on the Board. He was on our Board from its beginning until his retirement. First he retired from Standard Oil Company of New Jersey some time in the thirties, and retired from our Board in 1943.

Q. Yes.

A. He was the outstanding man on our Board on refining. He is the gentleman whose name partially bore, that is Dr. Burton and Mr. Clark, I believe, the first well known cracking process, and Mr. Clark was brought up as a refiner with the Standard Oil Company of Indiana, and then he went with Standard of New Jersey.

He was the outstanding man on our Board as to refining costs in the oil industry. At least, we thought so. He [fol. 3717] acted, not infrequently, because Mr. Howard was in Europe quite a bit.

Q. Now the contracts, before they were signed on behalf of Ethyl, were submitted, were they not, to the Executive Committee, consisting of Sloan, Howard and yourself, or this substitute?

A. I think in every case.

Q. Then did they go to the Board?

A. Not always. I might say that the Executive Committee really ran the business for quite a number of years. At that time we were simply a selling organization.

Our total investment, I guess, until we built the plant at Baton Rouge, didn't exceed a million dollars. We were marketers. We didn't have many Board meetings.

Q. Now I am calling your attention to Government Exhibit No. 762, which is a letter dated July 17, 1931, from Mr. Sloan to Mr. Lamont du Pont. He is discussing the question of price.

I call your attention to the second paragraph:

"As you know, there is considerable excess capacity for tetra-ethyl lead due to the progress that has been

made in increasing the productivity of the plant. The question arises, therefore, how can we put this extra capacity into profitable employment? The matter comes up at this time because Mr. Webb tells me that he is about to begin negotiations with your organization with regard to renewal of the contract, which terminates at the end of this current year."

He goes on:

"My thought is, that we ought to give consideration to the betterment of our overhead position, if it is a [fol. 3718] factor in a thing of this kind, by seeing just what we could make by your giving us a reduction on a reasonable assumption of increased business—we in turn passing that on to the trade with perhaps a certain contribution added to it——"

Now, it would appear, would it not, that at this conference with Mr. Sloan you had discussed this question of price?

A. Well, the only thing it says about me is that he is about to begin negotiations "with your organization" with regard to renewal of the contract.

It must have been that I did discuss price with Mr. Sloan at that time, or else I don't think he would have written what he did later on.

Q. That is right, sir.

Now he goes on, and this will confirm it, the last paragraph:

"I have suggested to Mr. Webb that he urge upon the du Pont organization this phase of the question——"

That is undoubtedly the reduction of price.

Then there is a reply to that by Mr. du Pont, which is Government Exhibit No. 763. I am not going to read this letter except the bottom paragraph on page 1, where they are talking about this quarter of a cent on gross sales.

Mr. du Pont says:

"Out of that quarter cent received by du Pont must come the cost of the raw materials, cost of manufac-

ture and du Pont's general expenses. If these figures are even half-way correct, it seems futile to look for a reduction in the three cent premium through a cut down of the quarter cent paid to du Pont"—

[fol. 3719] So that Mr. du Pont feels that any reduction apparently that should come in price should not come in his.

You make that out of that, don't you?

A. I think any of us can draw our own conclusion about it.

Q. Which would be the same, wouldn't it?

A. I don't know whether it would be the same or not.

Q. Would you look at it then as a lawyer and tell me?

Mr. Cox: Your Honor, I object.

The Court: Sustained.

By Mr. Harris:

Q. Mr. Sloan then writes to Mr. du Pont, July 28, 1931, Government's Exhibit No. 764, and apparently is still trying to get a reduction. He says that he shouldn't have butted into it.

I call your attention now, Mr. Webb, to Government's Exhibit No. 753, which is the contract of 1931, and call your attention to the fact that that year the price is down to 47 cents.

Now, I think we might come to the formula I asked you about in Government's Exhibit No. 766. This is a letter of February 25th, 1932, written by Mr. Lamot du Pont as chairman of the board and "chairman of the board" is crossed out, to Alfred Sloan:

"You know I have always been somewhat concerned with respect to the price for tetra-ethyl-lead charged Ethyl Gasoline Corporation by du Pont."

Then they discussed that reduction in price from 56 to 48 cents. Now, if you will turn to the other side of the letter, the last paragraph:

[fol. 3720] "I have always felt that, because of the difficulty of comparing the earnings of General Motors and du Pont from this source, on the basis of 'return

on the investment, it is reasonably fair that du Pont earnings should be about one-half of Ethyl Gasoline Corporation's earnings; i.e., General Motors, Standard Oil and du Pont should participate equally;"

subject to the royalty.

That meant, did it not, that maybe it was felt, and I take it, used in making the price that the manufacturing profit should equal one-half of the selling profit. That is right, isn't it?

A. That is what I gather from this paragraph.

Q. When did you first learn of this formula?

Mr. Carpenter: I object, if your Honor please.

The Court: Overruled.

By the Witness:

A. My best recollection is the first time I ever heard of the profit sharing, as you might call it, arrangement, such as referred to in the last paragraph of Mr. du Pont's letter to Mr. Sloan was when I began negotiating with du Pont. I think it was in 1935.

By Mr. Harris:

Q. Yes. Now, then—

A. About an arrangement which was concluded in the making of the four documents dated January 1st, 1938.

Q. When this price was recognized, is that right?

Mr. Cox: I object to that. The document speaks for itself.

[fol. 3721] Mr. Harris: Yes, the document will show.

The Court: Sustained.

The Witness: I would like to tell you one thing.

Mr. Harris: Please, yes.

By the Witness:

A. Mr. Lammot du Pont told me, and I think Mr. Howard was present on this occasion—it was in Mr. du Pont's office in Wilmington, Delaware, that he had noted that either that year or the preceding year that the earnings of the du Pont Company were one-half of the earnings of the Ethyl Corporation after deducting royalties.

By Mr. Harris:

Q. When was that, sir?

A. I think it was 1935. It may have been 1936, but my best recollection is 1935.

Q. And you never sought to ascertain, did you, whether that price arrangement was the best price that Ethyl could get either from du Pont or anybody else?

A. Well, the only thing I knew was this. Mr. Howard and Mr. Clark, two members of our board, who were employees of the Standard Oil Company of New Jersey, and Mr. Clark, vice president, and Mr. Howard, president of the Standard Oil Development Company, told me in the very beginning of my job that the best estimate they were able to make was that eventually with enough volume and improvements that might be made in the manufacture of tetraethyl lead, that it could be manufactured at 37 cents a pound.

That always seemed to stand out in my mind, that with a big volume, we might come to that figure.

[fol. 3722] Q. When did you reach it, if ever?

A. Oh, we reached it, and got down to 26 cents a pound.

Q. When?

A. Well, I think the 26 cents a pound was the year prior to the January, 1938, agreement.

Q. Was it ever figured what the price per pound of tetraethyl lead cost you on this arrangement that came in later, and I will call your attention to an arrangement for a certain share of the profits. Did you ever figure out what that cost you?

A. The actual cost of the lead?

Q. Per pound.

A. Of the lead?

Q. Yes.

A. I may be off two or three cents, but I think it was 18 or 20 cents a pound.

Q. That was worked out, was it?

A. How is that?

Q. Was that worked out, that figure of 18 or 20 cents a pound?

A. I think my best recollection is that we—after we began to be manufacturers with du Pont as our agent, the cost, I believe, got down to 18 or 20 cents.

Q. Well, do you know, was anybody else manufacturing tetraethyl lead at that time?

A. No, sir. You see how difficult it would have been to have brought another manufacturer in, a prominent manufacturer to begin with. Within three years after the first contract we made with du Pont, they had at Deepwater immediately adjoining or in that dyestuffs area, ethyl chloride plants. They had an ethyl alcohol plant out of which came ethyl chloride.

They owned, so far as I know, the only sodium plant in the United States, at Niagara Falls, and so that any other company to have gone into this picture would have involved a very, very large investment, and we would have had to pay for it in cost of the materials we had bought from them, and we were getting such good results from the du Pont Company on the health end of it, their production [fol. 3723] and their decreases in price to us, cooperating so that we could decrease our price to the industry, and we were very well pleased with the situation, and there was no occasion to try to get anybody else to do it.

It would have been at our expense and our——

The Court: Have you completed your answer?

The Witness: Maybe it was a little longer——

The Court: No, I just wanted to know.

The Witness: Yes, your Honor.

By Mr. Harris:

Q. All right. Now, what was your idea in going then to Denver?

A. All of this occurred subsequent to my trip to Denver.

Q. Yes, I know, but what was the idea of going to Denver?

A. Well, I think that going to Denver first, was to see the Continental——

Q. No, I ask you whether it was "to get another supplier." You had the idea that it would be the best thing for du Pont—for Ethyl, to get another supplier.

A. Yes, at that stage I felt that way about it. That is the reason I talked to Dr. Dow about it.

Q. And it was possible for you, wasn't it, to make the same kind of arrangement that you finally made, to manu-

facture the stuff yourself—you had the patents, didn't you?

A. Yes.

Q. Long before you did it?

A. I doubt it.

Q. All right.

[fol. 3724] I call your attention to a letter by yourself, Government's Exhibit No. 749, to Mr. Sloan, dated April 3, 1930:

“About a month ago while carrying on negotiations with the du Pont Company relative to a fourth lead plant, I told them I felt the time had arrived when we should be giving thought to conditions that might exist on the expiration of the Midgley patents——”

I drop down now to the end of the first page—

“• • • I made the following suggestion”——

That is to Robinson, the du Pont general manager of the Dyestuffs——

“—as the minimum we would expect—to be made a part of the contract relating to the fourth plant and as a consideration for our making it, viz; That inasmuch as the lead now being manufactured by du Pont was and had been manufactured under a process, the patent for which is controlled by Standard Oil Company (and through same we have the exclusive right to license others), and du Pont was the only concern—by reason of being our exclusive supplier—that had had the chance to make improvements or refinements in connection with the process, that if we have continued to purchase at least fifty per cent of our requirements of lead from them, for each year, up to January 1, 1938, then du Pont is to disclose fully to us any improvements they may have made in the art of manufacture——”

And then I call your attention down to the last paragraph:

[fol. 3725] “Certain objections have since been made by du Pont Company to entering into such an

arrangement, and I have told Mr. Robinson that unless we get some such provision I could not sign any agreement until the subject had been fully presented to and passed upon by our Executive Committee. That it was something that had not been heretofore submitted to the Executive Committee but I felt confident the proposal was so reasonable that if it was not accepted we would be strongly tempted to seek another supplier (for a substantial percentage of our requirements) right away, licensing such other supplier under the same patent with conditions perhaps more favorable as to future patent rights than we were presently requesting of du Pont."

That, Mr. Webb, was April 3, 1930. And as a matter of fact, in subsequent contracts, Mr. Webb, they did put in that provision, didn't they?

A. It was put in. I don't know whether they put it in. Both of us put it in.

Q. And that was on the understanding that you would buy at least fifty per cent of your requirements?

A. That is correct.

Q. And as a matter of fact, you bought all of them, didn't you?

A. Yes.

Q. Under those contracts?

A. Yes.

Q. Now, I call your attention to a letter, Government's Exhibit No. 770, from Mr. A. E. Mittnacht to Mr. Robinson of du Pont.

Who was Mr. Mittnacht?

A. He was secretary and treasurer of our company.

[fol. 3726] Q. It is dated September 19, 1933. Will you look at that letter, just the first page, so as to get an idea of the subject, and see if you can tell us whether you had discussed the matter with Mr. Mittnacht before he wrote Mr. Robinson?

A. This—

Q. "Mutualization."

A. This letter of September 19, 1933—

Q. Oh, that is before your time, isn't it?

A. No, I had been there nine years, or rather eight years.

I do not recall ever having seen this letter until this week.

Q. Oh, you had seen it before you came on the stand?

A. Yes, sir.

Q. All right. I call your attention to paragraph 1:

"We have promised our customers to present to them a plan for the mutualization of the Ethyl Gasoline Corporation."

What does that mean?

Mr. Cox: I object, your Honor. There is no basis for asking this witness that question.

The Court: No, overruled. He ought to answer.

By Mr. Harris:

Q. It is an operation?

A. Well, I think what Mr. Mittnacht had in mind was the possibility of the oil industry owning the Ethyl Gasoline Corporation. I think that is what he had in mind.

Q. Yes. Well, now, we will pass from that.

A. I don't recall his ever discussing the contents of this letter with me.

Q. (Continuing):

[fol. 3727] "We do not feel that we can present any such plan until we have put our relations with your Company on a permanently sound basis. Under the present set-up, the Ethyl Corporation is not in control of its own business. The du Pont Company is the sole supplier and we estimate that physical limitations might prevent the development of any competitive source of supplies for at least two years. A two-year shut down of its business would be fatal to the Ethyl Gasoline Corporation."

Are these statements in accord with the facts?

A. I doubt it. It certainly doesn't express my view on the subject. I don't know why in the world Mr. Mittnacht ever wrote a letter like that.

Q. So that when he comes to the second page in the top sentence and says:

"These are the plain facts of the situation,"

you would say they were not, is that right?

A. Well, I wouldn't say that Mr. Mittnacht ever purposely made a misstatement. He was a very high class man, and he worked his head off for us, but I do know, and I was the man responsible as manager of the company, that we never made a commitment of any kind or description to mutualize our company.

Q. I am not talking about that.

A. With anybody, but he says that in this letter that we had.

Q. I am talking about the condition that Ethyl found itself in on September 19, 1933, which Mr. Mittnacht says was one where du Pont was its sole supplier and Ethyl wasn't in control of its own business, and he goes on to [fol. 3728] say—which has nothing to do at the moment with mutualization—as follows:

“A relationship which grew up and existed only because of the feeling of mutual confidence between the parties has finally produced a situation which is an economic absurdity and appears plainly as such when it is viewed from the standpoint of selling the business to a complete stranger.”

Would you agree with that statement?

A. Absolutely not. We were going awfully well at that time. Our profits were very, very fine indeed, and the directors were perfectly satisfied with it, and I don't see how he could have said that it was an economic absurdity.

The contracts that are in evidence just—that shows the relationship between du Pont and ourselves, and any comments made by Mr. Mittnacht are his own views on that subject.

Q. Isn't it a fact, Mr. Webb, that about five years after this letter was written an arrangement whereby Ethyl took over the manufacture on paper of tetraethyl lead, and du Pont became the agent of Ethyl, really corrected the situation in some measure that Mr. Mittnacht is talking about?

A. Well, you will have to compare this letter with those contracts, so I cannot answer your question specifically. Our relationship is clearly outlined in those contracts.

Q. We are coming to them.

Now, I call your attention to a letter which is Government's Exhibit No. 779, and is dated December 19, 1935, by you to Mr. Lammot du Pont, and you are discussing in this letter what I have called the formula, or the profit-sharing [fol. 3729] between du Pont Company and Ethyl, in the form there of a price for tetraethyl lead.

Now, how long before December 19, 1935, approximately, had you begun to consider this profit-sharing arrangement as it affected your future contracts?

A. As I said before, I don't remember whether those negotiations began in 1935 or 1936. I don't know whether they began prior to this letter or not.

Q. Well, this is December 19th—

A. I might say this: any number of proposals were submitted during the time the negotiations went on, trying to arrive at a basis where we would be in control of our business both in the manufacturing and the selling end of it. That was our aim, absolutely, beginning back in the contract of August, 1930, where this 50 percent clause has been in there.

Q. That was something that Mr. Mittnacht had in mind when he wrote the letter?

Mr. Cox: I object to what somebody else had in mind.

The Court: Sustained.

By Mr. Harris:

Q. I call your attention, Mr. Webb, to the second page of this letter of yours to Mr. Lammot du Pont:

"Therefore your suggestion of having the du Pont Company participate in the profits derived from the manufacture and sale of tetraethyl lead on the basis of one to two is altogether unacceptable to us."

Now, that was the basis of one to two, that is the basis that we have just discussed, isn't it?

A. That is right.

Q. And they had been on that basis for a long time unknown to you, had they not?

[fol. 3730] Mr. Cox: I object to that question. How could he answer that, if it was unknown to him?

Mr. Harris: Well, he said he first learned of the formula in 1935, isn't that right?

Mr. Cox: Mr. Harris is asking the witness in fact what the basis was, and then I suggest, your Honor, that the witness is not supposed to be competent to answer. He said he didn't know the basis.

The Court: Sustained.

By Mr. Harris:

Q. I call your attention now, Mr. Webb, to your letter of February 27 of 1936 to Mr. Lamot du Pont.

Mr. Carpenter: What exhibit is this?

Mr. Harsha: Government Trial Exhibit No. 780.

By Mr. Harris:

Q. (Reading):

"Dear Mr. du Pont:

"I had hoped that we would be able to arrive at a mutually satisfactory partnership arrangement with you for the manufacture of tetraethyl lead embodying the basic principles outlined in my last proposal, but I feel confident this will not be accomplished in view of your statement that you will not subscribe to any arrangement of this character that does not give your company the absolute control of the suggested subsidiary company."

[fol. 3731] What was this arrangement, Mr. Webb?

A. I think at that time the suggestion was made by me that perhaps we might form a company and call it either "The du Pont-Ethyl" or "Ethyl-du Pont Company" and take over the Deepwater plants, and have that company operate the du Pont plants as a subsidiary, you might say, of Ethyl Gasoline Corporation.

Q. And that was unacceptable to du Pont unless it had absolute control of the du Pont Ethyl Company, is that right?

A. Mr. du Pont had told me, not once but several times, Mr. Lamot du Pont and Mr. Irene du Pont that they would not have an outside concern operating any plant

that formed such an integral part of the dye stuffs at Deepwater as the lead plants did.

Q. I call your attention now to Government's Exhibit No. 781. This is a letter from Lammot du Pont to you dated March 6, 1936, where you are discussing royalties, and apparently are not in agreement.

I call your attention to the last paragraph:

"I have told you on many occasions, have told Mr. Sloan and Mr. Brown on several occasions, and have told Mr. Teagle on at least one occasion, that it is my carefully considered opinion that Ethyl Gasoline Corporation would make a very grave error in undertaking the manufacture of tetra ethyl lead. I wish to repeat that statement now and to make it a matter of record; and I am therefore sending a copy of this letter to the three gentlemen above mentioned."

Did Mr. Lammot du Pont ever give you any reason why it would be a grave error for Ethyl to manufacture tetra-[fol. 3732] ethyl lead?

A. Yes. He said he thought that their organization could do a better job than we could, and he thought it would be a mistake for us to go into the manufacture of tetraethyl lead, not having any background on the subject.

RECESS

[fol. 3733]. By Mr. Harris:

Q. Mr. Webb, I addressed the question to you before the recess as to two sources of supply, and called your attention to a document in which you suggested that if the du Ponts didn't come to the arrangement that you had suggested in the document, you would seriously consider a second source of supply.

Do you recall that?

A. Could you fix the time?

Q. 1930. Well, I am only recalling to your mind what is in the record. If you don't remember it, that is perfectly all right.

This is something that came up this morning.

A. I happen to remember in 1929 a meeting with Mr. [fol. 3734] Sloan and Mr. Howard, about the expansion of the manufacturing at Deepwater, to take care of our anticipated requirements over several years which would necessitate the building of a fourth lead plant at Deepwater, and we came to the conclusion, the three of us, that if we couldn't make some sort of an arrangement with the du Pont people in reference to the know-how and the patent situation—

Q. That's right.

A. —in the very near future, why, then we would have to consider a second source of supply.

Q: Yes, sir.

Now, I call your attention to Government's Exhibit No. 750—

The Court: What number is that?

Mr. Harris: That is No. 750, your Honor.

By Mr. Harris:

Q. This is the letter of Alfred P. Sloan to you dated April 5, 1930. It speaks of your letter of April 3rd and that letter is with reference, I believe, to this know-how or exchange of know-how:

“You say in your letter that a certain agreement might be looked upon with suspicion as an effort to perpetuate a patent monopoly beyond the life of the patent. Be that as it may, or rather assuming that is true, I see no reason why we should not proceed in exactly that direction.”

Then Mr. Sloan proceeds to discuss the business aspect of continuing patent protection as long as you can.

“Perhaps I do not get your idea fully”—

[fol. 3735] this is the second page—

“but the point I want to make is—that I think it is perfectly all right to perpetuate the patent as long as we can; that it is not only morally right but that it is our duty to our interests to do that very thing. I might add further that I should feel quite strongly on this point in the absence of any argument that might

modify my opinion of course but, naturally, in this particular case in view of the fact that we are dealing with the du Pont Company, with whom we are associated, I recognize that irrespective of how the contract might be worded that their interests will surely be and must be to protect any position that seems equitable to us."

Was that also your point of view, Mr. Webb?

A. Not necessarily. I don't know that I subscribe to that last sentence to the same extent that Mr. Sloan expressed it. I might have if I had had his point of view before he wrote such a letter.

Q. Yes, sir:

"The second point is—that I have no objection to making a contract to purchase 50% of our requirements of lead from du Pont indefinitely because I think they are entitled to that consideration and, frankly, I would rather see them get the business if they can as I believe they can and will make us a price as low as we can purchase for elsewhere."

And then Mr. Sloan finishes in the last paragraph with an agreement with you for the position held by you that the Ethyl Company should get the know-how if they are going to give orders for 50 per cent.

[fol. 3736] I call your attention to a letter of Mr. Sloan to Mr. Lammot du Pont on April 18, 1930, which is around about the same time, in which he tells Mr.——

Mr. Harsha: Government Exhibit No. 751.

Mr. Harris: Government Exhibit No. 751, I am sorry.

By Mr. Harris:

Q. (Continuing)—in which he tells Mr. du Pont that you had come in to see him to discuss various matters regarding the operating problems facing Ethyl, and among other things the relations with the du Pont Company.

Then he goes on to discuss the desirability of protecting the patent position.

And then calling your attention to the second page of this letter, the first paragraph:

"I mentioned this to Mr. Webb"—

that is the exclusive privilege of prolongation—

“I mentioned this to Mr. Webb and thought there would be no harm in mentioning it to you so that everything could be done to throw protection around such processes as you are developing. It also seems very essential that the manufacturer be confined to one source of supply.”

Do you take from that he means that the Ethyl Company should be confined to the du Pont Company?

A. Well, I rather draw that inference, but I certainly wasn't attempting to do my job in the company on that basis.

There is that one sentence:

[fol. 3737] “It also seems very essential that the manufacturer be confined to one source of supply.”

I cannot say that I was sold on that idea completely.

Q. O.K., thank you.

Now, I call your attention to Government Exhibit No. 799. There is just one thing on Government Exhibit No. 783 first. Just keep that other one there, if you please.

This is a letter, Mr. Webb, Government Exhibit No. 783, from you to Donaldson Brown, Clark, Farish, Howard, Sloan and Teagle, dated March 12, 1936.

Who were these gentlemen?

A. Mr. Donaldson Brown was, I believe, at that time he was the vice president in charge of finance of the General Motors Corporation.

Q. Was he on your board, on the Ethyl board?

A. Yes, he was in the beginning.

Q. Were these other gentlemen on the Ethyl board?

A. Mr. W. S. Farish was president of the Standard Oil Company of New Jersey; Mr. F. A. Howard was president of the Standard Oil Development Company, and Mr. Teagle was the president—I think he was chairman of the board at that time of the Standard Oil Company of New Jersey. They were all on our board.

Q. Yes, that is what I thought. You are discussing with them in this letter your proposal to Mr. du Pont that we had up this morning, that there should be a joint company

formed, and it had stumbled on the rocks of du Pont's insistence on their controlling that joint company.

I call your attention to page 7 with reference to——

A. Page 7?

Q. Yes, sir, with reference to this question of profit that was discussed this morning, and the proposed royalty asked by du Pont of ten cents a pound for the new com-[fol. 3738] pany to pay, and you say that you don't know the profits of the du Pont Company on their raw materials, and you go on, and this is page 6:

"I think it is a fair assumption that the reason why we have been unable to make headway in our negotiations with the du Pont Company is because of the very handsome profits that they have been and are making on the manufacture of tetraethyl lead. The question obviously presents itself, what can we do about it * * * *"

Now that was in 1936, and in 1938 you made the new agreement, did you not, which for the first time put Ethyl in as the manufacturer, and du Pont as the agent to do the actual manufacturing?

I call your attention to Government Exhibit No. 799.

A. Mr. Harris, I think you are asking me a question, are you?

Q. Well, I just said this was the origin of this document.

A. I would say this: The first part of your question indicated that du Pont insisted upon controlling the entire enterprise in the event there was an agreement regarding the three companies.

Q. No, I thought——

A. I got the impression from the exhibit you showed me that they insisted upon controlling the subsidiary company.

Q. That is right.

A. Which was the manufacturer.

Q. That is right, the joint company, the du Pont-Ethyl Company.

A. Yes.

Q. That is so, sir.

[fol. 3739] Now, if you will look at Government's Exhibit

799, that is the 1938 contract, which in Article I employs du Pont to make these various chemicals, and finally to make tetraethyl lead.

I call your attention only to page 22, Article VII, which is the compensation to du Pont Company under the 1938 agreement as follows:

“100 percent of gross manufacturing profits of Ethyl Company from manufacture, purchase, and sale of tetraethyl lead and/or mixtures thereof with other substances up to an aggregate amount of 53,000,000 pounds.”

Then thirty per cent of the gross manufacturing profits over and above 53,000,000 pounds.

Then sixty percent of the gross manufacturing profits of Ethyl for the manufacture, purchase and sale of anti-knock compounds other than tetraethyl lead.

Finally, an amount whose ratio to the amount received by Ethyl as dividends on the common stock of Ethyl Dow Corporation is the same as the ratio of the aggregate payments to the du Pont Company under sub-paragraphs 1, 2 and 3 to twice the gross operating profits of Ethyl Company.

Now, that compensation continued, did it not, until 1947?

A. I don't think that you should end there. I think you should read, which is the most important part of it, the top of page 23.

Q. All right, sir:

“It is understood and agreed that for the purpose of this Article, the term ‘gross manufacturing profits’ shall be deemed to mean thirty-three and one-third per cent of gross operating profits of Ethyl Company [fol. 3740] and the term ‘gross selling profits’ shall be deemed to mean the balance of said gross operating profits.”

As a matter of fact, that was the arrangement, was it not, that du Pont considered the manufacturing profit its share and the selling profit their share, that is, General Motors and Standard Oil share? That is all that has to do?

A. I think what this is doing is in effect saying that du Pont's compensation under these agreements shall be one-third of the gross operating profits.

Q. That is right, as a measure of the manufacturing profits—

Mr. Cox: Let him finish.

Mr. Harris: All right, sir.

By the Witness:

A. After, but not including the royalty due to General Motors.

By Mr. Harris:

Q. That is at 25 percent royalty?

A. That is correct.

Q. Yes, that is similar—

Mr. Cox: Let him finish.

The Witness: Let me finish, will you, please?

On the first 53,000,000 pounds of tetraethyl lead, you see.

By Mr. Harris:

Q. That is what we said.

A. And anything in excess of 53,000,000 pounds shall be ten percent of such profit.

Q. I think it is thirty percent, but you are saying thirty [fol. 3741] percent of thirty-three and a third. That is what you are saying, aren't you?

A. That is good. You may say so.

Q. Don't let's misunderstand each other, Mr. Webb.

A. There isn't any misunderstanding as far as I am concerned.

Q. What I am talking about is that in this proposition they are embodying what they have been doing all along, and they are simply taking the measure of manufacturing profit as thirty-three and a third of operating profit, and operating profit includes selling profit.

Mr. Cox: I object to the form of that question, if it is a question.

Mr. Harris: Well, it isn't. It is an argument.

Mr. Cox: Thank you.

Mr. Carpenter: I move to strike it.

Mr. Harris: No objection.

The Court: It may be stricken.

By Mr. Harris:

Q. Anything further, Mr. Webb?

A. I only want to say this: That Mr. Frank Howard is the man who told me he thought this basis would be the one that we should try to obtain from the du Pont Company, particularly the 10 per cent on the excess over the 53,000,000 pounds.

It was that idea which I endeavored to negotiate and conclude successfully for quite a period of time before it was concluded.

Q. Now I call your attention to Government's Exhibit No. 811, and this is a statement by Mr. F. G. Donner, general assistant treasurer of the General Motors Corporation, dated July 31, 1939.

Its subject is: "Ethyl-du Pont Profit Sharing Arrangement."

I call your attention to the last paragraph:

"In the preliminary negotiations, the du Pont Company stated that its billing prices, from year to year, had been predicated on the basis of du Pont enjoying a manufacturing profit equal to approximately one-half the total profits being enjoyed by the Ethyl Company (operating as a selling company). In other words, the du Pont Company had assumed that the manufacturing profit should approximate one-third of the total profits resulting from the manufacture and sale of tetraethyl lead."

That statement refers, does it not, Mr. Webb, to the entire period of the contract?

A. Well, he says from year to year.

Q. Yes.

A. I never saw this in my life until right now.

Q. All right, sir.

A. What he had in mind, in the back of his head, I don't know, but that is what he says in the last paragraph:

"In the preliminary negotiations, the du Pont Company stated that its billing prices, from year to year,

had been predicated on the basis of du Pont enjoying a manufacturing profit."

The first time I ever heard of it was when I told you in the talk with Mr. Lammot du Pont in negotiating the January 1st, 1938, contract.

Q. All right. . .

[fol. 3743] Now, I call your attention to Government Exhibit No. 833.

This agreement was signed on the 19th day of August, 1947 which was the time, I believe, Mr. Webb, that you were parting company with du Pont on this manufacture of tetraethyl lead.

A. I wonder if I have the right exhibit.

Q. Government Exhibit No. 833.

A. Yes, I have that.

Q. You will find, Mr. Webb, the date of the execution on the very last page, the 19th day of August, 1947, executed by Mr. Kaley.

What was your position in the company at that time?

A. I think I was president until the 7th of August and then the position of Chairman of the Board was created by the Board of Directors, and I was elected to that position in anticipation of my retirement the following March 1st.

Q. All I wanted to know was did you have anything to do with the negotiation of this agreement?

A. Oh, yes, I had a lot to do with it.

Q. Yes. Now this agreement then provided that—I am not going to go over it; we won't take the time—but it provides for the transfer or licensing of the patent, the transfer of know-how between the two companies, does it not?

A. Yes, sir.

Q. So that you both started out, as far as the technique of the thing was concerned, equal, did you not?

A. That is correct.

Q. Now, your operating staff, after the division, who operated for Ethyl? What people were they?

A. We had on September—some time in September, 1945, taken over all the plants at Baton Rouge.

[fol. 3744] Q. Did they carry an operating staff?

A. I think some of the du Pont men down there left and

came back to Wilmington. I don't know how many, but substantially all of them remained.

Q. That is it, so that you were able to go on, were you?

A. Yes, sir.

Q. Now, did that result in a loss of capacity, that is, of production capacity for Ethyl?

A. Not at all.

Q. I understand then that du Pont set up new plants for its production, after the separation, and distribution?

A. I never heard of any.

Q. Where did du Pont get its requirements?

A. From the plant at Deepwater which had been constructed prior to the January 1st agreement, 1938. So far as I know, they never built any additional plants.

Q. They didn't go over to Ethyl then?

A. No.

Q. Before the separation, were the Deepwater plants producing for Ethyl?

A. Yes, sir, after the January 1, 1938 agreement.

Q. After that, they ceased to produce for Ethyl?

A. They never produced anything for us after December 31, 1947, at any time.

Q. Do you have any idea what your production was after 1947, as compared with the 1938 period in terms of percentage?

A. You mean when you say "our," are you talking about the Ethyl Gasoline Company?

Q. Yes.

A. It was all our production after January 1, 1948.

Q. Perhaps I am not making myself clear. In the 1938-1947 period the Deepwater plants were producing, were they not?

A. Yes, sir.

[fol. 3745] Q. And that was sold to Ethyl, wasn't it?

A. No, it was not sold to Ethyl.

Q. Oh.

A. They were our agent in running the Deepwater plant from January 1, 1938, until December 31, 1947.

Q. All right. Now, after 1947, what about the Deepwater plant? Did they continue to operate them as your agents?

A. Oh, no, we had nothing to do with them.

Q. Now, what was the production of the solely operated Ethyl plant, if you know?

A. They were all at Baton Rouge.

Q. What was their production that first year?

A. It so happens I have in my pocket a memorandum on that subject, if you want me to refer to it.

Q. Thank you.

A. At least, I think I have.

Q. Thank you very much.

A. It would be more accurate, I think, than my statement.

Q. All right.

A. In November, 1947, we had five plants.

Q. Does that include the Deepwater plant?

A. No, you asked me about Baton Rouge.

Q. Well, I don't know the date.

A. You asked me about 1947, the end of 1947.

Q. That is after the separation, is it? I am speaking now after the separation.

A. After the separation?

Q. Yes.

A. Well, we had the same number of plants there after the separation.

Q. Yes.

A. We had five lead plants, and the normal annual capacity of those plants was 194,000,000 pounds.

Q. Yes. Do you know what the capacity of the Deepwater plant was?

A. This is production rather than capacity.

[fol. 3746] Q. Oh, yes.

A. I can give you the production.

Q. Thank you, the production is what I am asking for.

A. Rather than capacity?

Q. Yes.

A. The production, you want to know in 1947?

Q. That same comparable figure, if you please.

A. Well, it cannot be the same, because you asked me what our capacity was, and what the arrangement with du Pont was. That is the figure I gave you.

Q. Have you got the figure for Deepwater?

A. I haven't got anything at all on Deepwater, because I don't know anything about it.

Q. Can you give me Deepwater before?

A. Yes, 1947, 41,000,000 pounds.

Q. What was Baton Rouge then? Can you give me Baton Rouge?

A. Yes, a total of 198,000,000 pounds at both plants.

Q. So the Ethyl Corporation started out with a production of about 150,000,000 pounds, is that right, on the separation?

A. That is what we were producing, but the capacity—

Q. No, let us have the production only.

A. Yes, the production was 157,000,000.

Q. And the Deepwater was about 40,000,000, is that right?

A. Yes.

Q. And those were the only plants, were they, that du Pont had, if you know?

A. Yes, but I might say here that at Deepwater, they were only operating for our account two of the lead plants.

Q. I see.

A. So the '47 production does not at all represent the capacity.

[fol. 3747] Q. Thank you.

A. You see, it would be about half. I should say the capacity would double '47 anyway.

Q. Thank you very much. After the separation, did Ethyl continue to buy from du Pont any of the components of tetraethyl lead?

A. I never heard of their buying anything from du Pont since December 31, 1947.

Q. Now, from where, if anywhere, did you buy those components, or did you manufacture them yourself?

A. We are an integrated company at Baton Rouge. We manufacture ethyl chloride, and we manufacture sodium. We buy pig lead in the open market, and the other materials are available to us, so that, so far as I know, we have not bought five cents worth of anything from du Pont beginning January 1, 1948 to date.

Mr. Harris: Thank you, sir. That is all, Mr. Webb.

Mr. Carpenter: I would like to ask Mr. Webb, with the Court's permission, just one or two questions.

The Court: You may.

Redirect Examination.

By Mr. Carpenter:

Q. Mr. Webb, the figure of 53,000,000 pounds, mentioned in the contract of January 1, 1938, Government's Exhibit No. 799, I believe it was; what was that figure? What production did that represent in your contract?

A. That represented the then estimated productive capacity of the plant at Deepwater owned by du Pont.

Q. What was the average profit that du Pont made on the operation of the Ethyl plants between January 1, 1938, and December 31, 1947?

A. The first percentage is 27 point something, 1938; I [fol. 3748] think the next year it was 22 per cent plus a fraction, and for the following eight years, it was always less than 20 per cent, under the contract of January 1, 1938, which was extended to December 31, 1947, the percentage was 15 point something. The aggregate—I might say the reason why I can quote these figures fairly well is because I asked for them just before I came to Chicago from the Treasury Department of the Ethyl Corporation.

For the ten-year period, the ratio of du Pont compensation to the earnings of the Ethyl Gasoline Corporation was 18.88 per cent, for the ten-year period.

Mr. Carpenter: Thank you, sir, that is all.

Recross examination.

By Mr. Harris:

Q. Is that gross earnings?

A. Well, yes, that is all they got out of the operation.

Q. I see. When you are talking of percentages, what is the basis of your percentage?

A. Under the formula—under the finance agreement which you read to me, the only agreement we have had with du Pont.

Q. When you are speaking of 18 per cent, you are speaking of 18 per cent of what?

A. Of the earnings of the Ethyl Corporation.

Q. What do the earnings of the Ethyl Corporation consist of?

A. I think they consist of earnings just like any other company.

[fol. 3749] Q. Sales, is it? Sales of what?

A. Well, it represents the profit of your business.

Q. I say, what does the Ethyl Corporation sell?

A. Well, it sells anti-knock compounds.

Q. Is that all it sold?

A. I am not sure whether in 19—well, I do know we sold salt cake which is not an anti-knock compound.

Q. What is that 18 per cent in millions of dollars, if it reaches a million dollars?

A. Well, the way you present it, the only thing I can say is this; if the Ethyl Corporation earned \$100,000, 18 per cent would be \$18,000.

Q. We are agreed on that part of your arithmetic. I am talking about what it represents in money, what figure you are talking about. Did you bring the dollar figure as well as the percentage figure in your head?

A. No, I did not ask for that. I asked them for the composite during that period of time.

Q. Now, I show you Government's Exhibit No. 811 and call your attention to the third paragraph, and call your attention to the third page. I will ask you to look at those profit figures.

Now, I call your attention to the fact that this exhibit shows total profits distributed between Deepwater, and the Baton Rouge plants on the basis of volume, and it is for the year 1938, and here are the profits:

“As a result, for 1938 du Pont received approximately 82% of the total manufacturing profits, as shown in the following calculation.”

And they set up the calculation which shows the volume in dollars, the total manufacturing profits of \$6,600,000, of which du Pont compensation took \$4,425,000.

[fol. 3750] I have nothing further, your Honor.

Mr. Cox: Was that a question?

The Witness: You have made a statement, but I don't know what you are driving at.

By Mr. Harris:

Q. Do you agree with that, or do you want to comment on it?

A. The only thing I want to comment on, Mr. Harris, is this, that the financial agreement was very plain and very simple and understandable, I think, by an ordinary business man, and the figure that I gave you of 18.88, according to the Treasury Department of our company, was the profit or the compensation which the du Pont Company received from the Ethyl Corporation for a period of ten years under the agreement of January 1st, 1938.

Q. You cannot give us the dollar volume, can you?

A. I unfortunately haven't got the dollar volume. It was quite substantial, that is, we were doing a very good business, and we were growing quite rapidly. We started out with eight chemists, and today we have 330 graduate chemists, and physicists and engineers in our organization, and our business went right along with the whole works, not only with the physical properties but what we call the human features.

Mr. Harris: Thank you.

Mr. Carpenter: That is all, sir, thank you.

(Witness excused.)

The Court: Any further evidence today?

Mr. Carpenter: If your Honor please, we took some [fol. 3751] depositions at the Dow Company at Midland, from their chemist, Dr. Britton, and Chairman of the Board, Mr. Bennett. We would like to read those depositions.

We are prepared to go through with them if you like to go to the end of the day.

The Court: Yes, until 4:00 o'clock.

Mr. Carpenter: Yes, whatever your Honor wishes.

The Court: The court will recess for ten minutes.

(Recess taken.)

Mr. Carpenter: If your Honor please, with the Court's permission I shall now read the depositions taken at Midland, Michigan, September 25, 1951, of two witnesses. The first is Edgar Clay Britton, who, after being first duly sworn, testified as follows:

EXCERPTS FROM DEPOSITION OF EDGAR CLAY BRITTON

"Q. Dr. Britton, where do you reside? A. I reside in Midland, Michigan.

"Q. By whom are you employed? A. I am employed by the Dow Chemical Company.

"Q. What is your position? A. My position is Director of Organic Research Laboratory and Vice Chairman of the Executive Research Committee.

"Q. How long have you been in the employ of the Dow Chemical Company? A. Since 1920.

"Q. And you are an organic chemist? A. Yes, sir.

"Q. —by profession? A. Yes, sir.

"Q. You also have very recently received a very high honor in your profession, have you not? A. Yes, sir.

[fol. 3752] "Q. And that is what? A. President elect of the American Chemical Society.

"Q. What was your position with the Dow Chemical Company in 1924? A. My position was organic chemist in the Organic Research Laboratory with Dr. Hale, William J. Hale as Director of the Laboratory.

"Q. In 1924 did you do any work on the synthesis tetraethyl lead? I show you a paper entitled lead tetraethyl process 316 and ask you, can you identify that as a photostatic copy of the report you made at that time? A. This is a photostatic copy of the report which I wrote at that time and was filed with the Dow Chemical Company's reports.

"Q. Can you tell us the occasion of your preparing that report? A. The preparation of this report was written as a result of my research work in the production of tetraethyl lead by the so-called Grignard process.

"Q. At whose request did you do that work and prepare the report? A. This work was assigned to me by Dr. Hale, and I did the work myself and ran the reactions and prepared the report.

"Mr. Carpenter: I now offer this report in evidence."

This was marked as Exhibit No. 1 for identification by the notary, and is attached to the deposition:

"Q. Dr. Britton, I notice on page 9 of this report that you say that 'this plant is peculiarly fitted to attempt the Grignard Synthesis of lead tetraethyl. In the first place this plant produces magnesium and does it fairly cheaply. Second: By a simple modification of [fol. 3753] temperature the ethylene plant can produce ether very readily and in good yield. Third: This plant can manufacture ethyl bromide or ethyl chloride. Fourth: The chlorine for lead chloride is produced here and lead chloride can be produced cheaply. Fifth: If a process involving bromine recovery were used, the Dow Chemical Company could do it better than anyone.' Did Dow Chemical Company at that time produce these various substances that you have referred to here? A. They produced ethyl bromide. I can't state positively whether they produced ethyl chloride, but I think we did produce ethyl chloride at that time from ethyl alcohol and hydrochloric acid.

"Q. You produced magnesium? A. We produced magnesium, yes.

"Q. Was this process that you described in this report one that in your opinion as a chemist was an efficient process for the production of tetraethyl lead?

A. I considered it so, yes.

"Q. Did you after that time, 1924, did you do any further work on tetraethyl lead? A. Yes, I did some further work on tetraethyl lead, which is the subject of a further report.

"Q. I show you now a report marked Tentative Process For Tetra Ethyl Lead by E. C. Britton, bearing No. 406 and dated June 22, 1926, and ask if that is the report that you just referred to? A. Yes, sir. I am sure this is the report I referred to, a photostatic copy.

"Q. A photostatic copy of it. A. I might say these numbers, 406, are the numbers assigned by our so-called File A report.

[fol. 3754] "Q. It is your own company's report number? A. It is our own company's number. This

No. 406 is our own company's number identifying this report.

"Q. And briefly what does that report show? A. Well, this report shows a further consideration of this process from the basis more of cost than the other one shows in that I go through the process and point out some of the factors involved in a large scale plant, size of equipment and matters of that kind concerning the process. The other report is more of a laboratory report."

"Q. Now, I call your attention to this statement at the top of Page 1, The Tetra Ethyl Lead Report, No. 316—that is Exhibit 1 offered today, give experimental details for the process which have since been changed to include several new features. A. Yes."

"Q. We are considering the production of lead tetraethyl and, in going over the details of plant construction, it would seem advisable to use the following procedure: Was your company at that time, as this states, considering the production of lead tetraethyl? A. It had been, as I understood it, considered by the management, I was assigned the job to propose a process."

"Mr. Carpenter: I now offer this report in evidence."

Exhibit 2 was marked for identification by the notary, and is attached.

"Q. Were you invited into a discussion of the subject of the Dow Chemical Company manufacturing tetraethyl lead with any other chemist or executives of [fol. 3755] the company at or about that time? A. Yes, I talked with Dr. Dow and Dr. Hale about the process."

"Q. Dr. Dow was Dr. Herbert H. Dow? A. Yes, Dr. Herbert H. Dow."

"Q. Who died in the Fall of '30? A. '30, that is right."

"Q. And he was the head of the company at that time? A. He was the President, General Manager and so on of the company."

"Q. Do you recall whether you at that time recom-

mended to Dr. Dow that the Dow Chemical Company go into the business of manufacturing tetraethyl lead? A. Well, I recommended that the Dow Chemical Company go into the manufacture of tetraethyl lead mainly because I thought we had produced a satisfactory process. There are other considerations though.

"Q. What were those considerations? A. There was the consideration which we had to face in this process here, first the hazardous character of lead tetraethyl, which in the earlier report had not been fully understood, that is the hazardous character of lead tetraethyl had not been fully understood in 1924, but after 1924 sometime, I can't remember when it was, the poisonous character of lead tetraethyl had been imminently proven by accidents with it, plus the consideration of disposal of waste materials which had to be overcome before the process could go into operation in Midland.

"Q. Just to amplify that a little, what do you mean by the hazards or difficulties of waste disposal? A. Well, in the first place in this reaction product, when [fol. 3756] the reaction is run ethyl chloride is reacted with magnesium, and then lead chloride is reacted with this reaction product of ethyl chloride and magnesium and it produces magnesium chloride, now, although this magnesium chloride is the chemical from which we produce magnesium it is just one of our starting materials, this magnesium chloride must be pure enough to be electrolyzed and handled and mixed. Lead tetraethyl and residues and things of that sort we couldn't get them into a proper shape for further electrolysis or cheaper than we could extract magnesium chloride from our own brine. This way the only thing that could be done with it was to throw it away and dispose of brine continuously down the Tittabawassee River here containing lead tetraethyl and residuous matters of that sort, something we couldn't even think of it.

"Q. Could you have burned that residue? A. No, we can't burn residue.

"Q. Why not? A. Well, in the first place if you start to burn the residue than the product you get out

would undoubtedly be a mixed magnesium chloride which would be disposed of, plus lead and the volatile products of organic nature in that material.

"Q. Those fumes, would they be noxious fumes? A. I would judge them to be noxious fumes, yes.

"Q. And you couldn't push them up in the atmosphere where a lot of people are? A. No.

"Q. But at that time was the Dow Chemical in its other processes producing many of the materials that would be used in the process of making tetraethyl lead? A. Well, at that time we were producing ethyl [fol. 3757] chloride, magnesium; we are not producers of ether; the process required for lead chloride, we were not producers of lead chloride but the process is not too complicated to make lead chloride from lead oxide with hydrochloric acid; toluene, were not producing toluene here so at the time we were talking we were producers of magnesium—

"Q. Ethyl chloride? A. Ethyl chloride—

"Q. Did you produce hydrochloric acid? A. And hydrochloric acid, yes."

Mr. Carpenter: Now I skip over to the first third of page 9:

"Q. Did you have any part in the making of the decision of the Dow Chemical Company whether or not to go into the business of manufacturing tetraethyl lead? A. No, I don't think I did.

"Q. That was a matter for management? A. That was a matter for management, I was only a chemist, had no official position except as a chemist with the Dow Chemical Company.

"Q. I see that report is dated June 22, 1926. A. Yes.

"Q. I now hand you a copy of United States letters of Patent 1,805,756. Inventor, Edgar C. Britton, assigned to Dow Chemical Company, and ask you if you had filed an application on a process for making tetraethyl lead on November 16, 1926? A. Yes, sir, this patent was filed for me by the Patent Department.

"Q. Of the Dow Chemical Company? A. Of the Dow Chemical Company.

"Q. The patent was issued by the United States [fol. 3758] Patent Office on what date? A. It was issued May 19, 1931.

"Q. As the number I have given? A. As the number you have given.

"Q. That covers the process covered by your report? A. In general, yes, I should say it covers the patentable features of my report."

Mr. Carpenter: I now offer this patent in evidence.

Mr. Carpenter: That patent is annexed as an exhibit, and I will read a line or two from it to the Court so that the Court will understand what it was. It is entitled:

"Method of making metal alkyl compounds."

and states:

"The present invention relates to methods for preparing metal alkyl compounds, more especially lead alkyl compounds, e.g. tetraethyl lead."

and it is annexed as an exhibit to this deposition. I won't read the patent.

This is at the beginning of page 11 in the book:

"Q. Dr. Britton, did the Dow Chemical Company thereafter, or at any time, enter the business of manufacturing tetraethyl lead? A. No, sir.

"Q. Can you give us the occasion for your writing this report or this estimate rather, of the costs in April 1931, in which it showed cost of 31.3 cents per pound for material? A. Well, I can't tell you the exact reason for making that, I have no recollection of it, but I have a feeling that I probably wanted to review [fol. 3759] this thing again to see if it could be revised and did it myself.

"Q. Did you attempt in 1931 to revive the question of whether Dow Chemical Company should manufacture tetraethyl lead? A. Yes, I always had it in my mind for quite a few years.

"Q. Did you speak to the officials of the company about it on many occasions? A. Yes.

"Q. By the way, did you ever speak to any officials

of the Ethyl Gasoline Corporation about the manufacture of tetraethyl lead? A. Not that I recall.

"Q. But you did repeatedly bring it up in your own company? A. Yes; that is right.

"Q. And the decision was what? A. The decision was not to manufacture it."

Mr. Carpenter: You may read the cross examination, Mr. Harsha.

Mr. Harsha: I won't cross examine this witness, but I will read a section from the cross examination by Mr. Hotchkiss beginning on the middle of page 20 of the deposition:

"Q. Now, I believe that you have testified that you as a chemist recommended to your superiors in the Dow Chemical Company that they embark on the production of tetraethyl lead? A. Yes, sir.

"Q. You made that recommendation notwithstanding the fact that you knew that there were certain hazards involved in the production of the tetraethyl lead, is that correct? A. I made the recommendation, yes, in face of those because I presumed the Dow Chemical Company might be able to erect a plant in [fol. 3760] some other place in the United States.

"Q. And you felt on the basis of your knowledge of the subject and the knowledge of your association in the Dow Chemical Company, that the Dow Chemical Company could overcome these various difficulties and hazards and could produce tetraethyl lead? A. I presumed that the Dow Company could, if the du Pont Company could, why I think we could, yes."

Mr. Harsha: That is all.

Mr. Carpenter: That is signed by the witness.

This is the deposition of Earl W. Bennett.

"EARL W. BENNETT, a witness named in the annexed notice, being of lawful age, and being first duly sworn in the above cause, testified on his oath as follows:

"Direct Examination.

"By Mr. Carpenter:

"Q. Where do you reside, Mr. Bennett? A. Midland, Michigan.

"Q. Are you an officer of the Dow Chemical Company? A. I am.

"Q. What is that position? A. I am a Vice President and Chairman of the Board.

"Q. How long have you been in the employ of the Dow Chemical Company? A. Since March 15, 1900.

"Q. You started in with the company in what position, what capacity? A. Accountant, including janitor, carrying the mail—

[fol. 3761] "Q. The company was pretty small in those days, I take it? A. Very small, yes.

"Q. And you stayed with the company all these years, have you? A. I have.

"Q. Who was the guiding genius of the company in those years from 1900 up until say 1930? A. Dr. Herbert H. Dow.

"Q. He was the founder of the company, was he not? A. He was.

"Q. Now, the year of 1923, coming down to that time, who were the executives that actually ran the company? A. Dr. Herbert H. Dow was the President, and of course, the Board of Directors had considerable to say about it because actually at that time the Board of Directors really represented the financial backing of the company, but there were only two officers in Midland, Dr. Dow, and at that time I was Assistant Secretary and Assistant Treasurer of the company, we were the only two officers in Midland.

"Q. You were the only two executive officers in Midland? A. Yes.

"Q. The Board of Directors were rather absentee Board of Directors, mostly from Cleveland? A. Mostly from Cleveland.

"Q. What were the principal products of the Dow Chemical Company back in the year '23 and '24? A. The principal products at that time were bromides and the salts of the bromides and chlorinated solvents, that is, the hydro-carbons.

"Q. As a matter of fact bromine was one of the first products the Dow Chemical Company produced, [fol. 3762] was it not? A. I would have to qualify that by stating that Dr. Dow had prior to the Dow Chemical Company, which was incorporated in 1897, with practically the same stockholders and the same Board of Directors to a large extent, although they weren't exactly the same, also operated the Midland Chemical Company, which Dr. Herbert H. Dow had founded and they were making the bromides at that time and in 1900 the Dow Chemical Company and the Midland Chemical Company came together because of the economy of things, that is, there were difficulties, the brine was being pumped in, the Midland Chemical Company took the bromine out and Dow took the salts out—

"Q. But you combined the operations of both companies in about 1900? A. 1900.

"Q. From then on the Dow Chemical has been the chief producer of bromine, in fact, in the United States? A. That is right.

"Q. Did you ever meet Charles F. Kettering and Thomas Midgley, Jr.? A. Yes, I did.

"Q. Do you recall when you met them? A. Well, not the exact date, but I forget what they called it, it seems to me the Dayton Laboratory, something like that, had been buying bromine—

"Q. Dayton Laboratory, Dayton Research Laboratory, something like that? A. I think we had been selling them some sodium bromide and bromine, both, at that time we didn't know exactly what they were doing with it but later on when Mr. Midgley, I think he came first, and both talked with us about using large [fol. 3763] quantities, and later on Mr. Kettering came into the picture.

"Q. Do you remember the occasion when they came up here to see Dr. Dow about supplying bromine? A. Yes.

"Q. Do you know what year that was? A. Oh, it might have been '22, '3, along there.

"Q. '22, '3, along in there? A. Yes.

"Q. Did you participate in the conference that they had with Dr. Dow? A. I did.

"Q. Can you tell us what the subject of their coming here was? A. Why the principal subject was to see if we could supply them with what we considered very enormous quantities of bromine, and I think at that time they were endeavoring to convince us they were really going to require it and needed and wanted us to prepare for it.

"Q. And what answer was given? A. Well, we could produce here in Midland up to certain quantities but the quantities they were inquiring about were just too large for us to produce here from this field, the principal thing being that while we could drill enough wells and produce enough bromine we wouldn't be able to dispose of the waste brine in the river.

"Q. Were you at that time having difficulty with the disposal of brine in the Tittabawasee River? A. Yes, ever since 1900."

Mr. Carpenter: Now I shall jump over to the next page, and one-third down:

[fol. 3764] "Q. Did you ever hear of Mr. Kettering going over to Europe and to North Africa and look for sources of bromine? A. We understood that they were just scouring the whole face of the earth, practically speaking, including the Dead Sea.

"Q. And did you ever hear that Mr. Kettering devised, or the Ethyl Gasoline Corporation had invented a way of taking bromine from the sea in the form of tribromaniline— A. We knew of the Good Ship Ethyl and I don't know that we were told exactly but I think we had figured out that tribromaniline would be the easiest way they could get it.

"Q. So you knew it was possible that the removal as tribromaniline would be the easiest way to get bromine out of sea water? A. Yes..

"Q. Well, when you heard that the Ethyl Gasoline Company, in cooperation with the du Pont Company,

or the du Pont Company in cooperation with Ethyl had built a chemical factory aboard a ship named Ethyl and set it cruising in the Gulf Stream and taking out bromine in the form of tribromaniline what, if anything, did you people do up here? A. First we took our waste brines and started to work on this and found out we could get it at a fair cost, the bromine that was left in our waste brine, and by the way we thought we knew quite a lot about bromine and we were satisfied it would be cheaper to get bromine out of our brine than trying to extract tribromaniline, so we proceeded largely on that line. In other words, we pursued the same course as du Pont Company did, apparently, and I assume it was Midgley, or how many of them there were I don't know, and then we made synthetic sea water, that is, duplicated it as far as possible by adding salt or taking salt out, I don't know which right now, so we would have about the same condition as the ocean, we then had, of course, in the meantime we had samples of ocean water from various points.

Q. How did you get those? A. We sent men out to check those up, it was largely hoping that we would find, maybe an inland bay where the content of the bromine would be greater than in the ocean.

Q. How big a search was that? A. Well, we didn't make a big search at that time, the big search we made came later on, but we are talking about the earliest conversation, at different times we had I think at least three tank cars of ocean water shipped in here, in the meantime we had built this pilot plant which we were using on our own brines and on the synthetic ocean water, not knowing exactly everything that was in the ocean, might be minute quantities would be there not in the synthetic and we wanted a trial run on the real ocean water and we found out our process worked very well on that, and as a matter of fact it was our ability to use instruments and very careful control of the added chemicals to release the bromine that made a success of our venture into ocean water.

Q. You said you sampled ocean water at various points, how did you do that in the ocean? A. Well,

I think, as I recall it over a period of perhaps eighteen months, or perhaps—I doubt any longer, although we sent them back once or twice to check but we had a man traveling wherever the boats travel, trying to [fol. 3766] get ocean water from various depths in the ocean, particularly with reference to the Gulf, and Atlantic Ocean, of course, and then wherever there were big bodies of ocean water, where the water is shallow, there are larger quantities of bromine in shallow water.

“Q. Was this research you were conducting over a period of several years made known to General Motors, the Kettering Laboratory, or Ethyl Corporation or du Pont, or did you do that very quietly on your own? A. Well, there wasn't any systematic information or any arrangement, but whenever we met with them why we brought them up to date, I am sure, on our efforts. I know we did.

“Q. You did what? A. We brought them up on our efforts.

“Q. I see. A. But there wasn't any regular method of reporting, or anything like that, casual conversation.

“Q. Now, after the pilot plant was built and operated by you in Midland and proved that your process was feasible, I ask you what, if anything, did you do then? A. Well, our next step was to make arrangements and build a pilot plant down near Wilmington, North Carolina.

“Q. Who selected that location? A. We selected the location on our own. Before the selection, I don't just remember who went from the Ethyl Gas Corporation but somebody had also looked it over.

“Q. You notified the Ethyl Gasoline Corporation then that you had developed and perfected a process for taking bromine out of sea water and asked them if [fol. 3767] they were interested and took them down to this place near Wilmington, North Carolina? A. Yes.

“Q. Showed them a site you picked out for a plant? A. Yes.

“Q. As a result of that did you have any con-

tractual relationship with Ethyl about that time? A. There was a tentative agreement, I don't recall everything in that tentative agreement, there was an agreement—

“Q. What was the subject of that tentative agreement? A. We were to have a joint venture and build a plant, presumably at that site, but not necessarily so.

“Q. Now, in what form did the bromine come out of the sea in your operation as you developed it and planned to use in the plant you contemplated building in North Carolina? A. Bromine.

“Q. The form of pure bromine? A. Yes.

“Q. The plant that they operated for Ethyl took it out in the form of tribromaniline? A. I misunderstood you, I don't know about that.

“Q. What is the difference between, if you can tell us, between tribromaniline and bromine? A. Bromine is an element and tribromaniline is an organic compound. I am not a chemist.

“Q. I understand that. One is a liquid and the other a solid, crystal, is it not? A. Yes.

“Q. As a result of the operation of the pilot plant at Wilmington, North Carolina, or near Wilmington, did Ethyl Gasoline Corporation and the Dow Chemical Company form a corporation? A. They did.

“Q. That is called the Ethyl-Dow Corporation, is it? A. Ethyl-Dow.

[fol. 3768] “Q. They took it out in the form of bromine, do they sell it as bromine? A. No.

“Q. What happened? A. Well, we had a plant for the manufacture of ethylene and combined the ethylene with the bromine to make ethylene dibromide, I have always called it ethylene di bromide, I don't know the difference—

“Q. In other words, in the same plant you would convert the bromine into ethylene di bromine and ship to the Ethyl Gasoline Corporation to blend into the ethyl products? A. Yes.

“Q. Is that plant still operating? A. No, it is not.

“Q. Tell us what happened. A. Why, during the war large quantities of ethylene di bromide were re-

quired, particularly for tanks and airplanes and so the government requested us to build a large plant. In the meantime, in 1939, we had started the erection of a plant at Freeport, Texas, in which we were taking the magnesium out of the ocean water and converting it into magnesium metal, and we were also making chlorinated solvents at that time so we had quite a large plant and when the request came to provide facilities for large production of ethylene di bromide—at that time the submarine menace on the Atlantic Ocean had become real bad and the Government wanted us to select a second site and so inasmuch as we were already producing chlorine at Freeport, Texas, and also pumping in the water to manufacture magnesium metal we conceived the idea we could produce ethylene di bromide cheaper there than we could [fol. 3769] at Wilmington where we were shipping in by barge the chlorine and sulphuric acids and other materials and shipping out by barge and then shipping by rail again, which made a rather expensive proposition, so we didn't build a larger plant at Wilmington. By the way, we never operated at full capacity down there for a long time after the war and have been producing so much cheaper at Freeport; the Wilmington plant was put in a partial stand-by condition, which remains there today in that same condition.

“Q. So all the ethylene di bromide produced by Ethyl-Dow Corporation is produced in Texas? A. That is right.

“Q. And just as a matter of interest, is it a fact that the Dow's process for taking bromine out of sea water was a step in the development of taking magnesium out of sea water? A. That was the thing that turned our attention to the sea water, the manifest possibilities, taking magnesium out of sea water.”

Now we will skip over to page 35, about eight lines down:

“Q. Is there any reason why from 1923 to date, or particularly from 1925 to date, when the Ship Ethyl operated, had, particularly the du Pont Company, or any other company, wanted to go in the business of taking bromine from the sea water or from brines, was

there any patent reason why they couldn't do so? A. No, there was no patent reason.

"Q. You had no monopoly of that at all? A. No.

"Q. Now, I shall turn your attention to another matter, Mr. Bennett, do you recall in 1926, particularly on or about the 25th of June, Mr. Earl W. Webb, President [fol. 3770] of the Ethyl Gasoline Corporation coming to pay you a visit here in Midland? A. Yes, I do.

"Q. I show you a memorandum and ask you if you can identify that memorandum. Just the first page. A. Yes, I have seen this before.

"Q. Did you see it shortly after that meeting was held that day? A. Yes, within several days.

"Q. And do you know who prepared the memorandum of that conference? A. Mr. Gilbert Currie.

"Q. Who is Mr. Gilbert Currie? A. He was our general attorney at the time.

"Q. General Counsel of the Dow Chemical Company? A. Yes.

"Q. Was he present at the meeting with Mr. Webb? A. Yes.

"Q. Do you know whether Dr. Herbert Dow was present? A. Dr. Herbert Dow was present.

"Q. Do you recall whether anybody else was present? A. I don't think so.

"Q. Did you read that memorandum shortly, that Mr. Currie had prepared, shortly after that meeting was held with Mr. Webb? A. Yes, I did.

"Q. Did you find that that correctly stated what was said by Mr. Webb and to Mr. Webb? A. It did, yes.

"Q. So you would say it was an accurate memorandum? A. Yes.

"Q. What was the occasion of Mr. Webb coming to you on June 25, 1926? You can use that memorandum to refresh your recollection if you wish. A. Yes. He brought two men with him who had stated that they developed a process for the manufacture of lead tetraethyl, and as I understand he also stated [fol. 3771] they had an agreement, and also at the same time we talked with Mr. Webb about the possibility of Dow manufacturing lead tetraethyl.

"Q. Did he express any wish on his part concern-

ing Dow? A. Yes, he wanted us to go into the manufacture.

"Q. For whom? A. For Ethyl Gasoline Corporation.

"Q. Did he give any reasons why you should do that, or what did he say? A. Well, he stated that he just had to have two sources of supply.

"Q. Did he give any reason why, any particular reason why he wanted you to do it? A. Well, he thought we could do it because, and I can't tell you just how he worded it, but he understood that we were working on a process for the manufacture of lead tetraethyl and that we had been rather successful in our development, experimental work, he wanted to talk that over, and to go into the manufacture of lead tetraethyl.

"Q. Did he refer to the Standard Oil Company of Indiana in that conversation? A. Well, he stated that the principal, I believe the principal use of lead tetraethyl was in the Standard Oil of Indiana's District, or wherever they were principally operating, which was in the middle west at that time, and therefore it would be rather logical to manufacture and blend the lead tetraethyl at a point near-by to consumption.

[fol. 3772] "Q. And Midland is rather close to the Standard Oil of Indiana's territory? A. Yes.

"Q. Much closer than New Jersey is? A. That is right.

"Q. Had you prior to that, do you recall, ever discussed with Mr. Webb the Dow Chemical Company's manufacture of tetraethyl lead? A. No, I hadn't, and I don't know if anybody else in particular had, but when he came up I knew at that time that he knew we had a rather good process.

"Q. He knew, did he, that tetraethyl lead could be made from magnesium? A. Yes, he had been so told by us and I presume by others.

"Q. Well, chemically it is well known that it can be made from magnesium? A. Yes.

"Q. Do you recall whether your company thereafter considered seriously going into the business of

manufacturing tetraethyl lead? A. Well, I would say at that time we very seriously considered it.

"Q. Did you ever see Dr. Britton's report made in 1924, and his report made in 1926, marked respectively D-1 and D-2, of his process for making tetraethyl lead out of magnesium, the first one, I think is— A. Well, I will say that I saw them but about all I gave consideration to was his cost figures, I wasn't interested in anything else.

"Q. Not being a chemist you didn't know how the reaction would work? A. No.

"Q. While we are here at this point, I see Dr. Britton's second report, Exhibit 2 of this day, on his tentative process for tetraethyl lead, dated June 22, 1926, which appears to be three days before Mr. Webb was [fol. 3773] here, was a copy of this to your knowledge shown Mr. Webb? A. I really couldn't say.

"Q. Following Mr. Webb's visit here on June 25, 1926, in which he urged you to manufacture lead so he could have a second source of supply, did you have a conference with any executives or chemists in your company about the subject? A. I will put it this way, I knew we did, but I was just trying to figure when that was.

"Q. Was there a memorandum of that prepared, or did you help prepare a memorandum, which I now show you of that conference? A. I know very well about this and I certainly misunderstood your question.

"Q. I see. A. This is very vivid in my memory.

"Q. Let me first mark the first sheet. A. Afterward, the Doctor has got a later report than 1926.

"Q. He has got a cost sheet? A. That is what I was thinking of, I had my mind on the cost; I knew about this one, too."

Mr. Carpenter: I will first offer this at this time this memorandum of June 25, 1926. They are fastened together I had better separate them, I think, because we will want to use the other two here. I now offer the memorandum of June 25th.

"(Exhibit 5 marked for identification by the Notary).

"Mr. Carpenter: I now show you a memorandum of June 28, 1926, and ask you if you have ever seen that before? A. Yes, I helped prepare this.

"Q. And when was it prepared? A. We were in conference, Dr. Dow and myself, I know that there was [fol. 3774] one other present but I can't remember who that one other person was.

"Q. What was the occasion of the conference? A. Well, that was following Webb's visit and the matter was very hot, that we were going to go into the manufacture of lead tetraethyl, we practically had to make up our mind very quickly if we were going in, if not, we really had plenty of business to put all the money we had into; and we were going ahead with either some of our work or possibly take up tetraethyl, that was the purpose of this conference on this day.

"Q. Could you tell us what was discussed that day between the three of you, you and Dr. H. H. Dow and this third man you can't recall? A. Well, after discussing at considerable length I started out writing down the reasons why we should manufacture lead tetraethyl, the reasons why we should not, now I don't recall—I was supplying both the changes that were brought out in that conference there and what was suggested, why we should and why we shouldn't, putting them down on paper it could be a little better evaluated, and I know that from this that first, 'uncertainty of the business', I was very much concerned about that because having known that the lead tetraethyl had become a cropper at one time, our plants had been shut down, and always that possibility.

"Q. By the way, you refer to the time following the Bayway disaster when a number of men were killed and injured, from breathing the fumes and by absorption of the tetraethyl lead, and following which in 1924 the Surgeon General started an investigation and Ethyl shut down business completely in 1925, is that [fol. 3775] what you refer to? A. Yes. At that time our contracts were all canceled and while we made a perfectly good settlement with them and they with us, both fair, we were out considerable amounts of money, and so were they, and that was the reason why un-

certainty of business came in. And in 1926 it still had not been firmly established, as I recall, even the Standard Oil of New Jersey, who were partners in the business, we understood, we don't know to what extent or anything about it, they were partners in the business, they hadn't started to use it again and that was my principal concern and then Dr. Dow—I would say that was the reason I put that up at the top, and Dr. Dow was more concerned with the hazard of the business, I presume he knew more about that than I did.

“Q. What did he say about the hazards, in the meeting, Mr. Bennett? A. Well, he had grave doubts we should go into any line of business that had as much hazard as that business.

“Q. What kind of hazard was he referring to? A. We were a small company, certainly anything happen to us like happened to Standard Oil of New Jersey might sink us.

“Q. I see, you were thinking about the poison hazards? A. The poison hazards.

“Q. You don't refer here to the hazards from dumping wastes into the river? A. That was part of it, it would be a hazard where men work in the plant, or disposal of the waste in the river, which as everybody knows Saginaw is drinking the water, their natural supply of water, and farmers on down the line here were driving their cows here to pasture right on the [fol. 3776] river and their cows would go right down to the river and drink, we had already settled some damage claims on that account.

“Q. Then continuing with the third item here, interference with other lines, what do you mean by that, what was developed in the conference about that? A. Well, we have had a pretty strong policy and it still is the policy, we determine whether the thing is in our line of business or not, or whether we should, or should not go into that line of business because what we considered our own line of business at that time had great possibilities and that is hydrocarbons and production of materials from brine, and we just knew that we had a big job there and we thought we could

do a better job by concentrating on certain fields rather than try to pick up some chemical that might be in demand at the time and make some money but we still might prove we couldn't probably compete on account of the raw material supply or other items.

"Q. The fourth item here is shortage of power. What did you have in mind? A. Well, our business was growing very rapidly, I am quite certain, although I am not sure, I think we were buying power at that time from Consumers Power and supplementing our own power, so if we had to manufacture a large quantity of magnesium metal for lead tetraethyl that would call for building of a power plant and everything that goes right through, we would have to start from the ground up.

"Q. The fifth is, lack of capital. That was considered as a reason why you should not. What was the discussion on that subject? A. Well, we thought [fol. 3777] we could better employ our capital elsewhere, our other products were growing rapidly at that time.

"Q. All right, did you think you could employ your capital better in other products than this? A. We knew the field we were in and we were making profits and we could see where we could increase those profits by doing a better job, and there didn't at that time appear to be a limit, it looked pretty rosy on other products.

"Q. How about the sixth, any casualties would to some extent injure our good name. What did that discussion lead to? A. Well, that just referred, we would have a casualty, were rather proud of our record at that time, up to that time we had a very good record in regard to injuries and I think probably placed too much emphasis on that, but we still feel pretty strong about anything happening in our plants.

"Q. That was looking towards the health and safety of your employees? A. Yes, we go to extreme lengths for safety and health.

"Q. Now, you state in this same memorandum various reasons why Dow should manufacture tetraethyl lead and without specifying all those in detail, they are all stated here, did you gentlemen, you executives

in conference about this subject on the 28th of June, consider both the pros and cons of this question? A. We did, yes.

"Q. Do you recall whether at that same conference you had before you Dr. Britton's reports on his method to make tetraethyl lead? A. Yes.

"Q. You knew what his material costs were? A. Yes.

[fol. 3778] "Q. Had you received from Mr. Webb any intimation about what he was willing to pay you for tetraethyl lead? Or anything about prices? A. I rather imagine, now I just can't state that, but I rather imagine we were discussing that, perhaps the selling price would have to be around a dollar a pound to make it of any interest, and I think it rather looked as if, of course, we were fishing for information and Webb wanted us naturally to make it as cheap as we could, I think we rather understood around a dollar a pound that price might be attractive to Ethyl Gasoline Corporation.

"Q. Now, as a result of this conference when you consider both these reasons for and against Dow Chemical Company going into the manufacture of tetraethyl lead, what was the decision made? A. Why, we practically on that June 28th, we did not decide not to go into it, but certainly the opinion was we would have to take another good look at it before we wanted to decide, but to all intents and purposes, I think as they kept on with some of their development work, I don't believe we stopped that, or anything, but unless there was something more positive come up that would induce us to go in we weren't going to go and the reason I think that is because, while Dr. Britton has reduced the cost, we never got any further than thinking what it would cost to build a pilot plant and we never asked the engineering department to make us an estimate of the cost to produce quantities Webb wanted so I know, we rather felt we weren't going to go into it.

"Q. Did Webb ask you to produce very large quantities of tetraethyl lead? A. Well, commercially they would be large, yes; but nohow to compare since.

"Q. Did you ever get to the point of accurately determining what your costs would be in either a pilot plant or a full scale manufacture? A. No.

"Q. Now, Dr. Britton in his report there, No. 2 of June 22, 1926, gives his estimate of the cost per pound of 72.58 cents, the chemicals 60 cents, the factory expense, depreciation and maintenance, estimated cost 72.58 cents per pound. Did you gentlemen have that figure before you? A. We did, yes.

"Q. Did you attempt at that time, or later, to determine what you would have to add to that for construction of plant and capital investment and profit? A. Well, just off-hand in our business a dollar in plant will quite often produce a dollar in sales, we don't always average that but we try to so just knowing that and starting in on a new thing like this and building a plant and taking all the risk, I know in my own mind I would just take about fifty percent of that and add to that as the selling price. Now, before you make a price like that you would probably make a price because prices are always a matter of negotiations, so you start in from that, so I did arrive at a dollar but before we could do that accurately we would really have to know what the cost of the plant would be because after all it is your investment you are going to make profits on and not sales.

"Q. I will show you now this paper you mentioned awhile ago, Dr. Britton's estimated cost of materials to make lead, April 1931, Exhibit No. 4, did you see that after Dr. Britton made that estimate? A. Yes, [fol 3780] I am sure I did, but I don't recall there was any conference on that and I just can't recall that, probably Dr. Willard Dow asked him to, probably Willard had talked with Webb, I don't know as he did, but, I mean, that might have come about from that, that is the only thing I can think of.

"Q. Do I understand that up to this date, which was April 1931, your company had not finally decided whether you would go into the business of making lead, you were keeping an eye on the situation, were you? A. As far as I was concerned it was dismissed and I knew of the sentiment and I think probably the rest of them felt the same way about it, but you know

1931 was rather a depressing period and I think we were going over the files and every where else to see if we overlooked anything we should get into because of the slow moving of the rest of our products.

"Q. Did Mr. Webb, on more than one occasion speak to you and urge you to go into business making lead or just on that one occasion? A. Why the matter was referred to several times, yes, but was never seriously discussed at any time later and Webb did inquire if we made any further progress, it looked any better, and I think the answer was always 'no.' I say I think, I know it was."

Mr. Carpenter: Mr. Gribbon now takes the witness. Do you want me to read his questions?

Mr. Cox: We would be obliged to you if you read it.

Mr. Carpenter: Mr. Gribbon of the du Pont legal staff asks these questions:

[fol. 3781] "Q. (Mr. Gribbon) Mr. Bennett you testified, I believe, that the proposal from Mr. Webb to the Dow to manufacture tetraethyl lead received serious consideration by the Dow Chemical Company? A. Yes.

"Q. Was a reason for it receiving serious consideration the fact that Ethyl had put the proposition up to you? A. We did give it more serious consideration by reason of Ethyl having put it up to us because they were a good customer of ours and we would like to accommodate them if possible.

"Q. Was the du Pont Company at that time considered a good and large customer of yours? A. They were a customer, I don't recall a large customer.

"Q. They were not in the same category as the Ethyl Gas? A. No.

"Q. What had been the Dow Company's experience in the manufacture of poisonous or hazardous chemicals around about 1926? A. Well, we had made and manufactured mustard gas and had had a bad experience with mustard gas.

"Q. How was that? A. Pardon?

"Q. What was that experience with mustard gas? A. Well, we had rules and regulations laid down, the

mustard gas was manufactured in a large tumbler and we had rules and regulations laid down when that tumbler had to be cleaned out, which it did occasionally, and actually our men were in momentary charge of the manufacture, but the Government had a detail of officers here and at that time the mustard gas was badly needed and it was being shipped to Europe, and as I understand it it was the only mustard gas manufactured here that ever did reach the battlefields over [fol. 3782] there, naturally there was a great push for the output, but from our working on how to handle this mustard gas and how long it contaminated the equipment we knew that a certain number of hours had to elapse before anyone could go in there and our man in charge of the operation had had to close the plant down to clean out and after it was cleaned out they used various things to absorb all the gas, including use of blowers and so forth and so, then this detail, we also had a detail of soldiers there, and our men were instructed not to go into the plant until a certain number of hours had elapsed and we determined that by analysis, and the detail of soldiers decided they needed the mustard gas worse than anything else and if our men didn't clean it out they would. They went in and several of them were killed and a good many injured.

"Q. That was during the first World War? A. Yes.

"Q. You ceased manufacture of mustard gas immediately after the war? A. Yes.

"Did your normal line of chemicals and other fluids include and poisonous and hazardous chemicals? A. Well, both chlorine and bromine are toxic, generally there is not much effect, usually, if they come in contact with it they will get out, in other words, it isn't intense, but we have had chlorine poisoning and some accidents from bromine but nothing ever very serious and so we are pretty strict on our rules and we had considerable experience with poisonous gas and handling of gases and we wouldn't look for a line that brought us into more hazard.

[fol. 3783] "Q. Were you present at the conference

which Mr. Currie has recorded in the memorandum that has been identified as Defendant's Exhibit 5, that is the conference with Mr. Webb? A. As of 1926?

"Q. Yes. A. I was.

"Q. You were present and were a party to the talks?

A. Yes.

"Q. With Mr. Webb that were recorded in that memorandum? A. Yes.

"Q. Would you refer please, to the memorandum of June 28th, which has been marked as an exhibit and refer especially to Point 3 there, interference with other lines. Would you look at Point 3 of the reasons why we should manufacture tetraethyl lead and tell us whether that Point 3 was intended to be in response to the Point 3 at the top of the page? A. In other words, 3 of why we should?

"Q. Yes. A. All growth interfered with normal operation, but in the end had paid——

"Q. Yes. A. Well, it costs money to construct a building, in the course of building plants your normal operations are interfered with and made more expensive, now, that is by reason of overhead and attention being paid to the new plants by superintendents, everybody is interested in the new plant coming and nobody is interested in the old plant, that is just where you run around——

"Q. Do you recall whether quantities of magnesium would have been required in the process Dr. Britton proposed? A. Yes, that is what I was told.

"Q. What effect would that have upon your ability to sell magnesium for other purposes? A. Well, I [fols. 3784-3795] don't think that would have any effect at that time, being at the start, because actually we were not selling all the magnesium we were producing but if we had gotten into the lead tetraethyl we would have had to build more magnesium plants because the surplus we were not selling was not large, so the immediate output at that moment wouldn't effect it at all, in the long run it would have if we hadn't built a plant."

[fol. 3796] WILLIS F. HARRINGTON, called as a witness on behalf of the Defendants, having been first duly sworn, was examined and testified as follows:

Direct Examination.

By Mr. Horsky:

Q. Mr. Harrington, will you state your full name and [fol. 3797] your address for the reporter?

A. My name is Willis F. Harrington. I live in Wilmington.

Q. Are you a director of the du Pont Company at the present time?

A. I am.

Q. Do you occupy any other position with the du Pont Company at the present time?

A. I really do not hear you very well, Mr. Horsky.

Q. I will try to speak a little louder. Do you occupy any other position with the du Pont Company at the present time, or are you retired?

A. Am I what?

Q. Are you retired?

A. I am retired, yes.

Q. Mr. Harrington, I would like to go into your history a little bit. Where were you educated?

A. I was educated first at what is now the University of Delaware, and subsequently at the Massachusetts Institute of Technology.

Q. What year did you graduate from the Massachusetts Institute of Technology?

A. 1905.

Q. Then did you go to work for the du Pont Company?

A. I did.

Q. In what capacity?

A. I went to work as a chemist in the laboratory at the dynamite plant at Barksdale, Wisconsin.

Q. How long did you remain in that position?

A. Well, I remained at Barksdale as a whole for almost five years, but I did not remain in the chemistry department all of that time. I occupied a great many jobs during my stay at that plant, including acting as superintendent of the plant before I left there.

Q. Where did you go from there?

A. I went to du Pont, Washington, which is the State of Washington.

Q. In what capacity?

A. The company had just built a dynamite plant out there, and they sent me out there to start it in operation. [fol. 3798]

Q. Did you do that at du Pont Washington?

A. I did.

Q. How long were you at that position?

A. I stayed there until the latter part of December, 1914.

Q. Then where did you go, sir?

A. I was recalled to Wilmington to go into the smokeless powder activities which had developed to a considerable extent by that time.

Q. In what plant?

A. In Carney's Point, the smokeless powder plant.

Q. Where is Carney's Point? In Delaware?

A. Right directly across the Delaware River from Wilmington in New Jersey.

Q. In what capacity did you start at Carney's Point?

A. I started as assistant manager of that plant.

Q. What were you when you left there?

A. I was manager of the plant, later, and when the war terminated, I was still manager of the plant.

Q. Can you give us some idea generally about how big a plant that was?

A. Well, we had about 10,000 employees, and we made almost a million pounds of smokeless powder a day.

Q. When you left that plant, Mr. Harrington, where did you go?

A. I went to Wilmington, and became a part of the so-called miscellaneous manufacturing department.

Q. In what capacity were you in that department?

A. I have forgotten exactly what my title was. I think I was supposed to be a sort of assistant to the assistant general manager.

Q. What was the miscellaneous manufacturing division at that time?

A. It was made up of a number of manufacturing activities which the du Pont Company was in, which included dye stuffs and organic materials, "Pyralin," "Fabrikoid," and "Parlin" products.

[fol. 3799] Q. How long did you remain in that position, in that department, I mean?

A. Well, that department was broken up in the middle of 1921. The Dyestuffs Department was taken out, and I became assistant general manager of the dyestuffs department.

Q. How long did you remain in that position?

A. I think I was made general manager of the Dyestuffs Department in July, 1924.

Q. Did you continue in that position for a number of years?

A. I remained in that position until, I think, it was 1929 when I was made vice president, and became a member of the Executive Committee.

Q. Of the du Pont Company?

A. Of the du Pont Company.

Q. How long did you continue in those capacities?

A. Until the first of August, 1947, when I retired.

Q. You remained a director after that?

A. Yes, I remained a director after that.

Q. Now, I would like to turn your attention, Mr. Harrington, to the subject of tetraethyl lead. When was it, in your work with the du Pont Company, that you first came to contact with what I might call generally the anti-knock problem?

A. Well, I would say it was somewhere in the neighborhood of 1920 or 1921.

Q. How did it happen that you heard about it? What were the circumstances?

A. I knew that Mr. Midgley was visiting Wilmington frequently, chiefly talking with Dr. Stine who was assistant director of the Chemical Department at that time, and Mr. Midgley was talking over his problems in connection with the work he was doing in trying to find a suitable anti-knock for gasoline.

Q. Did he talk to you personally?

A. At times, he did, but only in the latter period of [fol. 3800] time.

Q. Do you know whether he had been coming to Dr. Stine before you transferred to the miscellaneous products division?

A. Yes, sir, he had been coming there quite some time before that.

Q. Do you recall, Mr. Harrington, the occasion when Mr. Midgley asked du Pont,—either Mr. Midgley or Mr. Kettering, asked du Pont to produce aniline for them?

A. Yes, I do.

Q. Did someone request you, in that connection, to consider the matter?

A. Yes.

Q. Who was it, Mr. Kettering or Mr. Midgley?

A. I think it was Mr. Midgley so far as I was concerned.

Q. What was his proposal, as you remember it?

A. Well, his proposal was that we should establish additional facilities for the manufacture of aniline so that the product could be sold as an anti-knock additive to gasoline.

Q. What was your position with respect to that request?

A. Well, our position at that time was it was too speculative. In the first place, we did not think that they had arrived at the last word in connection with the finding of an anti-knock chemical. We also realized that the amount of aniline that they would want to anti-knock gasoline would be a stupendous amount. It required quite a substantial amount of aniline for a gallon of gasoline to accomplish the anti-knock properties that they desired.

The tremendous investment that would have been involved to put up facilities to supply the company with aniline was just beyond what we thought was reasonable.

Q. I would like to refer you, Mr. Harrington, to Defendants' Trial Exhibit du Pont 95, which is a memorandum [fol. 3801] from Dr. Stine. Would that be the Dr. Stine you mentioned Mr. Midgley talked to?

A. Yes.

Q. To Lamont du Pont, dated May 1, 1920, and I would like to read the second paragraph on the first page.

A. On the second page?

Q. On the first page:

"There are many angles to this question of whether the du Pont Company would be interested in enlarging its capacity for the production of aniline to serve as a knock suppressant. First is the question of what advantage could accrue to the du Pont Company

through making the considerable expenditures necessary to produce largely increased amounts of aniline. This involves the question of the nature of the patents which the General Motors Corporation may have taken out or may contemplate taking out covering the use of aniline and similar aromatic amines as knock suppressors. It involves not only the validity of these patents but also the question of whether someone is likely to get something much better than aromatic amines to serve the same purpose in the near future."

* Is that substantially as you recall the situation?

A. Yes, sir.

Mr. Horsky: I would like also to refer your Honor to Defendants' du Pont Exhibit 96, which is the reply to Government's Trial Exhibit 602, which is referred to in the first paragraph as the letter of August 14th. It reads:

"My dear Mr. du Pont:"—

The Court: Pardon me, which one are you referring to now?

[fol. 3802] Mr. Horsky: Du Pont 96, a letter from Mr. Kettering to Mr. Lamont du Pont, dated August 17, 1920. I put it in the volume I handed to you.

The Court: which paragraph are you reading?

Mr. Horsky: I have not started reading it. I put it in the volume with the other exhibits so you don't have to go to the bound volume.

The Court: Which one is that?

Mr. Horsky: It is entitled Examination of Mr. Harrington, I believe.

The Court: I see.

Mr. Horsky: It may make it more convenient to follow it.

The Court: All right, I have it now.

Mr. Horsky: (Reading):

"I am in receipt of your very kind letter of August 14 and note what you say.

"I should, of course, anticipate that if the manufacture of aniline could not be done with profit it would not be a success as a commercial venture. The thing I should like for you to do for me is to tell me what ani-

line would cost in large quantities and in what quantities it would have to be produced in order to make it a profitable investment for you. In other words, if we were to undertake the distribution of it, in what quantities would you have to make it and at what price?

"If you will advise me on this matter I think I can tell you directly whether such a thing would be practical or not."

[fol. 3803] Do you know, Mr. Harrington, whether after Mr. du Pont expressed his reluctance as indicated in your testimony, that Mr. Kettering went to any other company to ask them to produce aniline?

A. Any other company, you say?

Q. Yes.

A. Not that I know of.

Q. Is aniline an organic chemical?

A. Yes.

Q. Were there other companies in the United States to which he might have gone in search of aniline at that time?

A. Yes, there were, I suppose, eight or ten manufacturers of aniline in the country at that time.

I would say, however, that probably there wasn't more than one of them that had the resources that would be necessary to approach such a program as this, and that would be the Allied Dye & Chemical, besides ourselves.

Q. Were you familiar with the organic chemicals manufactured in the early 1920's?

A. Yes.

Q. Did you know the technical staffs and managerial staffs?

A. Well, I knew their managerial staffs better than I knew their technical staffs. Of course, I knew the technical staff by their reputation through the managerial staff.

Q. Did you know the reputations of the companies both among themselves and with the people whom they supplied?

A. Yes, I knew them quite well.

Q. What was the reputation of the du Pont Company, if you can state it, early in 1920 as an organic chemical producer—in the early 1920's, I should say?

A. I would say that the du Pont Company would be looked upon as one of the top manufacturers of organic chemicals and dystuffs at that time. I don't know that I would say it was the real top, but certainly it was among [fol. 3804] the top manufacturers.

Q. What happened to this aniline project, Mr. Harrington, finally?

A. It was dropped because they found something better in a very short time.

Q. Let me refer you to du Pont Exhibit No. 97, Mr. Harrington. This is a letter from Mr. Midgley to Mr. Stine dated April 15, 1921, and I would like to read a part of the first paragraph, skipping the first sentence:

"I know you will be interested in hearing that we have recently discovered an antiknock material which is twenty-four times as strong as aniline, volumetrically. The material looks very, very practical, and I feel sure that this is going to radically change our previous plans, obsoleting the injector; in fact, obsoleting the use of aniline, or coal tar products, in any way, shape, or form, except, possibly, as carbon removers."

Do you know now, Mr. Harrington, what substance it was that was referred to in this letter that they had discovered?

A. I think they probably referred to the compounds of tellurium and selenium.

Q. Did those compounds have utility as antiknock materials?

A. Yes, they were quite good.

Q. Was du Pont ever asked to assist General Motors in the production of those?

A. No.

Q. Do you know why they were given up by Mr. Kettering and Mr. Midgley?

A. Well, they had to be given up almost as soon as they were located, because of the fact that the terrible odor was involved in the exhaust gases when the products were used, and in addition to that the quantities of tellurium and selenium in the country were very, very scarce.

[fol. 3805] Q. They are rare?

A. They are very rare, yes.

Q. This is April, 1921, Mr. Harrington. Were you familiar with a request made by Mr. Midgley for some additional research to be done by the du Pont Company on anti-knocks in the fall of the year, in the fall of 1921?

A. I only learned about it in a general way. I knew that such a subject had been discussed, yes.

Mr. Horsky: I should like to offer, your Honor, some documents on that subject at this point, in order to keep the chronology straight, if I may.

I would like to offer du Pont Exhibit No. 109, and I suggest, your Honor, that you refer to that black volume, and they will carry along in that. They ought to be in order, beginning at the beginning.

The Court: Well, the exhibits beginning with 95?

Mr. Horsky: Yes. I have referred to those already.

The Court: The next is what?

Mr. Horsky: Exhibit No. 109. It ought to be about the third or fourth document.

The Court: It jumps from 86 to 115.

Mr. Horsky: You are too far, your Honor.

The Court: Oh, I see. The numbers are not consecutive.

Mr. Horsky: That's right. I am putting them in the order in which I refer to them.

The Court: Oh, yes, all right.

Mr. Horsky: Do you have it?

The Court: Yes.

[fol. 3806] Mr. Horsky: This is a memorandum from Charles L. Reese, the Chemical Director, to the Executive Committee.

By Mr. Horsky:

Q. What was he Chemical Director of, Mr. Harrington?

A. He was the Chemical Director of the Central Chemical Department of the du Pont Company at that time.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 109.)

Mr. Horsky: This is dated November 3rd, 1921 and it reads as follows:

"Mr. Midgley of the General Motors Research Corporation was here last week, and asked us to under-

take some work for them at an expenditure to be not over \$12,000. He wishes this work done aside from the general agreement which is now being taken up between Mr. Lammot du Pont and Mr. Kettering, and has asked us to draw up a contract embodying the ideas included in the contract, copy of which I am enclosing herewith.

"This matter has been drawn up practically by the Legal Department, and I am sending same to you for your approval. I might say that we have very definite ideas as to how to undertake this problem, provided it meets with your approval."

Then I should like to refer to Government's Exhibit No. 584 which is the next document dealing with this topic which is dated two days later, November 5, 1921, from Mr. Kettering to Mr. Lammot du Pont.

It reads:

[fol. 3807] "My dear Mr. du Pont:—

"I have delayed answering your letter of October 24th because our Mr. Midgley was going to make a trip to your plant and he has just returned from there this morning.

"I understand that a very good understanding is now being worked out between the two companies and there is reason to believe that the matter will be settled to our mutual satisfaction in the near future."

Then I should like to offer du Pont Exhibit No. 110, which is dated November 30th, 1921, which is approximately three weeks following this prior exchange.

(Said document so offered and received in evidence was marked du Pont Exhibit No. 110.)

Mr. Horsky: This is an excerpt from the minutes of the meeting of the Executive Committee of the du Pont Company held on November 30th, 1921. It is entitled "Agreement with General Motors Research Corporation Covering Work on Development of Non-Knocking Fuels:" and it reads:

"Letter was received from the Chemical Director dated November 23, 1921, referring to this Committee's

action of November 9, 1921, in approving an agreement with the General Motors Research Corporation for work at the Experimental Station on the development of non-knocking fuels. The Chemical Director enclosed a revised agreement containing certain modifications suggested by Mr. Midgley of the General Motors Research Corporation. These modifications were explained to the Committee personally by Dr. Reese, and after discussion the following resolution was offered and unanimously adopted:—

“RESOLVED, that the revised agreement between E. I. du Pont de Nemours & Company and the General Motors Research Corporation re development of non-knocking fuels, as presented to this meeting by Dr. Chas. L. Reese, Chemical Director, be and the same is hereby approved, and the President or any Vice President, together with the Secretary or any Assistant Secretary, be and they are hereby authorized to execute same on behalf of this Company.”

Then I should like to offer, by way of showing what happened to this agreement, du Pont Exhibit No. 111, which is a letter from F. B. MacNab, the business manager of General Motors Research Corporation to Dr. Charles L. Reese, Chemical Director of the du Pont Company.

(Said document so offered and received in evidence was marked du Pont Exhibit No. 111.)

Mr. Horsky: This is dated January 28, 1922, approximately two months later:

“Dear Mr. Reese:

“In conference with Mr. Midgley, regarding copy of contract forwarded by you with your letter of December 6, 1921, it has been decided that for the time being we would not be interested in entering into the fore-mentioned contract.

“The reason for our reaching this decision is that [fol. 3809] our work at the Laboratories along fuel lines has taken an entirely different turn from what we expected.”

Then as showing what happened with Standard Oil at the same time I should like to offer du Pont Exhibit No. 112, which is a letter about six weeks later from Mr. Midgley to Mr. Frank Howard.

(Said document so offered and received in evidence was marked du Pont Exhibit No. 112.)

Mr. Horsky: This exhibit is dated March 18, 1922, and I will read just the first part:

"My dear Mr. Howard:

"I have indeed, been wondering just why I have not heard from you and probably should have written you without waiting, but as matters are developing I could see really no harm in this delay and really was glad that you were responsible for it and not myself.

"Very shortly after seeing you in Chicago, our research work took a very sudden turn in a direction that would indicate that it would be a mistake both on your part and on ours to enter into an agreement such as we discussed at that time. I must naturally apologize after the trouble that I put you to in the expectation that this problem would be solved at the refinery."

By Mr. Horsky:

Q. Now, Mr. Harrington, what was the next anti-knock development of which you heard?

A. Tetraethyl lead was the next one.

Q. Did du Pont have any part, so far as you know, in [fol. 3810] the discovery that tetraethyl lead was an anti-knock?

A. No, the du Pont Company had had no part in that development at all. That was entirely a development on the part of Kettering and Midgley.

Q. When did you hear about the discovery? When was it you heard about the discovery, about what time?

A. I think it was sometime in March, 1922, the latter part of March.

Q. Do you recall from whom you heard about it?

A. Well, I think I heard it at first through Mr. Irene du Pont. I heard of it just shortly after that from Charlie Stine.

Q. Let me show you Government's Exhibit No. 610, Mr. Harrington, which is a memorandum from Mr. P. S. du Pont to Mr. Ireneé du Pont, dated March 24, 1922, enclosing a report on tetra ethyl lead.

Does that date correspond with your recollection about when you would have heard of it?

A. I think I heard about it shortly thereafter, yes.

Mr. Horsky: Let me also offer du Pont Exhibit No. 113. This is a memorandum from Doctor Stine to Mr. Lamnot du Pont, dated May 15, 1922.

(Said document so offered and received in evidence was marked du Pont Exhibit No. 113.)

Mr. Horsky: I should like to read only the first and last paragraphs:

"I am returning to you herewith the letter from Mr. C. F. Kettering dated May 8th to you. I am also enclosing our correspondence file from January 1st to date which contains the very limited exchange of letters that there has been between the Dayton crowd [fol. 3811] and ourselves. Will you please return this to our files when you have had an opportunity of reading it."

Then after summarizing some of the material in the correspondence file, it concludes:

"The foregoing, then, together with the attached correspondence file covers our relation with the Dayton people since January 1st, 1922. I believe that Mr. Midgley has purposely refrained from asking any advice or assistance from us since the first of the year."

By Mr. Horsky:

Q. What did you do, Mr. Harrington, after you heard about this discovery of tetraethyl lead as an anti-knock from Mr. Ireneé du Pont or Dr. Stine?

A. We did nothing except make a literature study, which we would naturally do.

Q. Why did you do no more than that?

A. There was no request on us to do any more. There

was no reason particularly why we should do more than just make a research study.

Q. May I ask you to look again, Mr. Harrington, at Government's Exhibit No. 610, and refer you to the last paragraph on the second page. It says:

"Kettering would like to take up the question of manufacture with the du Pont Company representatives at an early date."

Do you recall whether Mr. Irene du Pont told you about that as well?

A. Yes, I was told about that just a little bit later after I first heard about tetraethyl lead.

Q. There is in the record already, Mr. Harrington, the [fol. 3812] fact that Mr. Irene du Pont went to Dayton on July 6, 1922, to see Mr. Kettering. Do you recall that trip?

A. Yes.

Q. Did Mr. du Pont tell you when he returned what had occurred at Dayton?

A. Well, he didn't tell me anything particularly about the details of what happened there except to tell me that Mr. Kettering wanted to come and call on us very shortly to talk about the subject of manufacture.

Q. Did Mr. Kettering come?

A. Yes.

Q. The record indicates that he came on July 20; does that correspond with your recollection about, say, two weeks after Mr. Irene du Pont's trip?

A. Yes, that is right.

Q. Did you see him when he came to Wilmington?

A. I did.

Q. What occurred on the occasion of his visit, if you remember so far as you remember?

A. When Mr. Kettering came, we discussed the subject in Wilmington.

Q. What subject?

A. As to the possible manufacture and possible facilities for the manufacture and process of manufacture, and so forth. Then we went over to the dye works and took Mr. Kettering over there, and I took several of our research men along with us.

We showed Mr. Kettering the possibilities that we had over there for the manufacture of tetraethyl lead.

Q. What were they?

A. We had a building over there which had sufficient height and which was unoccupied at that particular time, in which we had thought that we could put assembled apparatus to make tetraethyl lead.

You see, since this request that Mr. Kettering wanted us to think about the manufacture, such as reported in this [fol. 3813] last document, we had given some thought, not only to the laboratory process, but what kind of equipment would be necessary to assemble to do a job of manufacturing tetraethyl lead.

At that particular time when Mr. Kettering came, before he had come, we had given quite a bit of thought to this so that when he did come we were in position to show him the facilities and the type of equipment that we thought would be suitable to do the job.

Q. How much assistance did you get from the literature at that time as to how to manufacture tetraethyl lead?

A. Oh, very little from the literature as to how to manufacture it. The only thing we could get at that time was that it was a product that had been known years before.

Q. Was there any literature on anybody having manufactured it before, commercially?

A. Not commercially, I don't recall that.

Q. What did you understand that Mr. Kettering wanted when he came to Wilmington to see you? What was the purpose of his visit?

A. Mr. Kettering came to see us to appraise our value to him as to a possible source of quick manufacture of tetraethyl lead.

Q. How important was speed to him?

A. I think he thought speed was tremendously important at that time.

Q. What was your impression of the effect that your demonstration had on him? Did you think you had sold him?

A. Well, we thought we had made quite an impression as to our ability to assist him, because he asked me to immediately come out to Dayton to call on him and to see

what he had out there so that we could better visualize the conditions between the two of us.

Q. Did you go to Dayton then?

A. I did.

[fol. 3814] Q. How long after Mr. Kettering's visit to Wilmington was it that you went to Dayton?

A. Two or three days after.

Q. Who went with you, if anyone?

A. I took Dr. Bolton, who was head of our Research Department, and also Dr. Calcott from the Jackson Laboratories.

Q. What occurred at Dayton when you were there?

A. Well, they showed us around, showed us all the things, all the stuff they had been thinking about, all their ideas, all that kind of stuff. The fact is they actually gave us one demonstration in the laboratory of how they had tried to make tetraethyl lead. That particular process got entirely out of hand and spewed all over every place, and we had to get out.

Q. Was that process that you were shown at Dayton a process that was a commercial manufacturing process?

A. No, not by a long shot.

Q. Let me refer you, Mr. Harrington, to Defendants' Trial Exhibit No. GM 71, which is a memorandum from F. O. Clements, Director of Research of General Motors Research Corporation to the General Motors Executive Committee, dated August 2, 1922.

It is a report for the month of July. I would like to read the first eight or nine lines:

"The month's efforts have been confined to semi-works production of lead tetra-ethyl. The entire process has been studied intensively, to eliminate cost. The du Pont organization has been brought into the work and they have duplicated our semi-works production very readily. Just now, we are counting upon the du Pont organization to collaborate with us on this new compound. This is the logical procedure, due to [fol. 3815] the fact that they have equipment and floor space suitable for this kind of work."

May I ask you, Mr. Harrington, when this report uses the words "semi-works production," in view of what you

saw at Dayton, what does "semi-works production" mean in this document?

A. What would it mean then, you mean?

Q. Yes.

A. Well, it was a very small activity, just a little bit beyond the test tube laboratory stage. That is what they were doing out at Dayton.

Q. What happened after you went to Dayton? What did du Pont next do with respect to its tetraethyl lead development?

A. We came back home and assembled in the Jackson Laboratory semi-works area a small set of equipment which was suitable for the manufacture of tetraethyl lead in small quantities, say, a gallon or so a day.

Q. Would that be larger now than what you saw at Dayton?

A. Yes.

Q. Considerably, or just how would you compare them?

A. Oh, well, as I said, theirs was a little bit more than test tube stage, and this was represented as about a gallon a day, and there is quite a difference between those figures.

Q. How long was it, Mr. Harrington, before you started producing and sending tetraethyl lead to Dayton with this equipment?

A. I think we made the first shipment of a gallon of tetraethyl lead to Dayton about the 15th of August, which would be about two weeks after I came back from Dayton.

Q. Let me show you General Motors Exhibit No. 247, [fol. 3816] Nos. 248 and 249, Mr. Harrington. These are telegraphic exchanges between you—the first one is from Mr. Midgley to Doctor Bolton, and the others are telegrams from you to Mr. Midgley, in which you state that you are shipping 70 pounds of anti-knock on August 24 and 46 pounds anti-knock on August 25.

Does that correspond about with your recollection as to what you were doing at the time?

A. Yes.

Q. Does it mean that you were shipping about that amount every day or was this an unusual shipment?

A. No, you see in one of these cases they shipped a little less than five gallons and the other they shipped a little less than three gallons. The shipments were a bit inter-

mittent, but nevertheless that was the type of scale on which we were producing and shipping at that time.

Q. Did you have any difficulty in adapting the process that you saw at Dayton to your Jackson semi-works operation?

A. Yes, we had quite a lot of difficulty. I think probably the most fundamental difficulty was that the recipe that they had given us from Dayton indicated a desirability of using a tetra sodium lead.

When we attempted to use and make tetraethyl lead from that particular type of alloy, it was soon evident that that particular product had too much sodium in it because we simply couldn't control the reaction. It would run away from us.

Q. What do you mean by that, that it would run away from you, you couldn't control it?

A. Well, it just developed such high pressures and it would get entirely out of hand. We just couldn't hold it in the reaction vessels. It would develop inordinate pressures.

We reduced the sodium content from a tetra sodium lead to a little less than a di-sodium lead, and by that process [fol. 3817] we arrived at a method that we could keep control of, and could successfully produce tetraethyl lead.

Q. Do I understand that this is the normal difficulty in taking a laboratory process into a semi-works or was it peculiarly difficult in this respect?

A. I don't know that anybody can ever determine the question of normalness, what is normal between a test tube and a semi-works. But if this was the actual normal, then it was a little bit on the high side of normal, I would say, because we had a tremendous amount of difficulty with it.

Q. What were the arrangements at this time, Mr. Harrington, by which du Pont was being paid for this production, if there were any?

A. We had no means of receiving pay at that particular time, and as I recall we weren't receiving pay. But we were sufficiently concerned and interested in the subject for the purpose of rendering service that we were willing to take our chances that we would get paid.

Q. You ultimately did work out a contract?

A. What is that?

Q. You ultimately did work out a contract?

A. Yes, we ultimately did work out an agreement.

Q. Mr. Kettering testified, Mr. Harrington, that he was, I think, in favor of having a contract. Did you favor having a contract at this time?

A. Oh, yes, I did; very much so.

Q. On what basis?

A. We had done a lot of work in the laboratory, a lot of research work; we had done a lot of work in the process of producing the amount of tetraethyl lead we sent out, and we didn't know what the future was going to be. We did not know whether General Motors was really using us at the early stages, and then was going to jump off some [fol. 3818] other place, or had a manufacturing program so we wished to see what the future was to be.

Q. Was there any patent problem involved, any problem on patents?

A. Yes, there were a number of patents involved, that we thought should be involved, because in the process of our work in developing the Jackson laboratory semi-work stage, we had run into a number of ideas that we thought were patentable, and I wrote Mr. Kettering a letter calling his attention to that particular thing and suggesting that we should get together and make sure we were properly protected, that is the process of manufacturing, be patented.

Q. Let me show you, Mr. Harrington, Defendants GM Exhibit No. 72. Is that the letter to which you refer?

A. Yes.

Q. I call your attention to the second paragraph. It says:

"It is our feeling that the whole Tetra Ethyl Lead manufacturing process should, insofar as possible, be protected by patent, but before doing anything of this character I felt it was entirely necessary that the subject be discussed with you,—therefore my telephone conversation with you this morning."

What was the response to that letter, if you recall?

A. Mr. Kettering was definitely very much interested in the subject, because he immediately came to Wilmington to see me about it.

Q. What did you decide to do at that time, if anything?

A. We decided that there should be a grant back clause to the General Motors in the contract which at that time we were doing the early stages of negotiations on.

Q. Who suggested that procedure?

A. What is that?

[fol. 3819] Q. Who suggested that, you or Mr. Kettering?

A. Mr. Kettering suggested that, but that was following my letter, and Mr. Kettering was quite anxious about that particular point, because he felt that he had been abused in the past by a manufacturing company along the lines of not being willing to grant back to him, and he wanted to protect himself against that unfair treatment the next time.

Q. Did you agree with him?

A. I did.

Q. What did you do to bring this about?

A. I wrote a letter to the company and asked for permission to put such a clause into the contract whereby General Motors would have the grant back rights on those patents which we had developed in connection with the early work.

Q. Let me show you, Mr. Harrington, Defendant du Pont Exhibit No. 98, which is a resolution of the du Pont Finance Committee, dated September 18, 1922, just about a week following your letter to Mr. Kettering, and ask you if that is the resolution that you requested?

A. Yes.

Q. It reads:

"The following resolution was offered and unanimously adopted:

"WHEREAS, this Company is engaged in some chemical research work for the General Motors Corporation in connection with the production of Tetra-Ethyl lead; and

"WHEREAS, in the conduct of such work this Company may develop secret processes and processes subject to patent which will involve our taking out patents for the protection of our customer, namely, the General Motors Corporation;

"RESOLVED, that it is the sense of this Committee [fol. 3820] that all patents so taken out and all secret processes so developed are the property of the General Motors Corporation, and that such patents should be assigned to and such secret processes should be turned over to the General Motors Corporation;

"RESOLVED FURTHER, that the President or any Vice President of this Company, together with the Secretary or any Assistant Secretary be and they are hereby authorized to execute the necessary papers to carry the above into effect."

The first contract that is in the record, Mr. Harrington is dated October 6th, 1922. That is Government's Trial Exhibit No. 618. Is that the first contract you had with General Motors relating to tetraethyl lead?

A. Yes, sir.

Q. Who negotiated that contract?

A. Who what?

Q. Who negotiated that contract?

A. Well, I did for du Pont with the assistance of the legal people in connection with the legal phraseology.

Mr. Horsky: Do you wish to have a recess at this time, your Honor?

The Court: The Court stands recessed for fifteen minutes.

(Recess taken.)

By Mr. Horsky:

Q. Mr. Harrington, at the time the contract of October 6, 1922, was executed, what was your belief as to whether you were satisfying the demands of General Motors with respect to production of tetraethyl lead at this semi-works [fol. 3821] plant?

A. Well, we were only producing a small quantity, but they only wanted a small quantity at that particular time, because they had found themselves in difficulty in using tetraethyl lead in the cylinder of the engine because of the fouling of the spark plugs and the difficulty that was involved with the valve stems and valves.

Q. Did they give you any impression that they were dissatisfied with your performance to date, as of 1922?

A. Not at this time; no; in fact, they seemed to be very well pleased with it.

Mr. Horsky: I would like to refer, your Honor, to Defendants' Trial Exhibit General Motors No. 73 which is a report of Mr. Clements, the Director of Research, to the General Motors Executive Committee dated October 3, 1922, and read just the last paragraph:

"The Semi-Works preparation of tetraethyl has been left to the du Pont Company, who are operating at their Dye Works plant. They have succeeded with their part of the problem in a very admirable manner. The yields obtained are within 85 to 90% of theory, which is exceptionally good. The du Pont Laboratory is to be congratulated upon this result."

I should also like to refer to General Motors Exhibit No. 252 which is the report by Mr. Midgley to Mr. Kettering dated about a month later, a month and a half later, November 20, 1922, which is a summary of the present situation on anti-knock material, and paragraph numbered 1 reads:

"Production. This phase of the tetraethyl lead problem seems to be pretty well solved and we have the assurance of the du Pont Company in the form of a [fol. 3822] contract that they will produce tetraethyl lead at a price that renders it quite commercial."

By Mr. Horsky:

Q. Mr. Harrington, you have the contract in your hand there, Government's Exhibit No. 618?

A. Yes.

Q. I notice that this is not signed by you, although you said that you negotiated it.

Can you explain why it was signed by Mr. Irene du Pont?

A. Well, it was the practice of the du Pont Company at that time, and in fact it still is, that an officer of the company has to sign a contract, has to sign these contracts, unless an individual is specifically specified and permitted to sign by action of the Executive Committee.

I was not actually specifically designated as the authorized signer at this particular time, so it had to be signed by an officer.

Q. Who picks the officer that signs it?

A. Well, the Secretary of the Committee usually will take it to the particular officer who probably knows the most about the subject, and in this particular case it was taken to Irene, I believe, by the Secretary of the Committee, and Irene signed it.

Q. Now, you recall that this contract, Mr. Harrington, this 1922 contract, was the one in which du Pont was to build a plant to produce 100 gallons of tetraethyl lead daily upon four months' notice, and the one which provided that the patentable inventions would be turned over to General Motors.

The price is \$2.00 a pound.

[fol. 3823] Let me call your attention to paragraph 6 on page 4 of this contract.

I would like to read the second paragraph of paragraph 6 which begins "Should the purchaser desire"—

Do you find it?

A. Yes.

Q. (Reading):

"Should the Purchaser desire to discontinue the use of anti-knock compound during the first year of this agreement, it may cancel the same but should it do so, it shall take over, at cost, such materials as may have been provided by the Manufacturer for the purpose of complying with its obligations hereunder and shall purchase all such finished product as the Manufacturer may have produced at \$2.00 a pound. The Purchaser shall also pay the Manufacturer the portion of the cost of the plant constructed for such production as the unfilled portion of the order bears to the total order."

By Mr. Horsky:

Q. Do I correctly interpret that to mean that this contract was to amortize in one year the cost of the plant you were to build?

A. Yes.

Q. Was that a provision which you regarded as abnormally or unusually favorable to du Pont?

A. No, I would think it would be a perfectly normal thing for us to have in respect to a product of this character, which was so uncertain as to the future.

Q. Do you know whether du Pont has had similar contracts for other commodities?

A. We had a great many. I suppose the best illustration was the smokeless powder contracts in World War I. [fol. 3824] Q. They were on this basis?

A. Yes, all of them—that is, all the earlier ones, I should say.

Q. After the execution of this contract, Mr. Harrington, which was October 6, 1922, do you recall how long it was before General Motors gave you notice to begin the construction of the plant, the 100 gallons a day plant?

A. They didn't ask us to proceed with the construction until some time in the latter part of March, 1923.

Q. If you know, what was the reason why they delayed?

A. Their departments were involved with a solution of finding a suitable chemical which would enable tetraethyl lead to be used with success in an internal combustion engine. In other words, they had to find a means that would stop all this fouling of spark plugs and valves.

Q. Is that what they call a scavenging agent?

A. Yes.

Q. Do you know whether General Motors at this time had arranged any distribution system for tetraethyl lead?

A. Well, they had tried out in Ohio, in certain specified locations such as Dayton, I think, Cincinnati, and so forth, and they had found that their early progress and acceptance on the part of the public was quite good.

Q. Let me show you, Mr. Harrington, Defendants' Trial Exhibit GM 75, which is a telegram to you from Mr. Midgley, dated March 29, 1923.

It reads:

"It was officially decided this morning to go ahead with the antiknock program as rapidly as possible. (Stop) Consequently this constitutes official notification that you are to get out one hundred gallons of tetraethyl lead per day as soon as possible. (Stop) Expect to see you Monday afternoon next week."

[fol. 3825] Is this about the time, as you recall it, that you were given this notification?

A. This is a notification, a copy of it.

Q. What did you do when you got this telegram?

A. Proceeded as rapidly as we could.

Q. Let me show you du Pont Exhibit No. 114.

Mr. Horsky: I should like to offer du Pont Exhibit No. 114, which is a telegram from Mr. Harrington to Mr. Midgley, dated March 31, 1923.

(Said document so offered and received in evidence was marked du Pont Exhibit No. 114.)

By Mr. Horsky:

Q. It reads:

"Your telegram on antiknock received. We are working as rapidly as possible to get executive committee permission to proceed."

Did you send that telegram?

A. Yes.

Q. Now, I take it you did go ahead and build a plant, is that correct?

A. Yes.

Q. Where did you build it?

A. At Deepwater Point.

Q. Is that where the dye works is?

A. Yes.

Q. Where is that geographically? Where is Deepwater Point?

A. Geographically it is directly across the Delaware River from Wilmington, in New Jersey.

Q. When was that plant finished, do you recall?

A. I think we started deliveries in August, 1923. I would say probably around the middle of August.

Q. When you had completed that plant in August of 1923 for 100 gallons a day, did that prove to be a sufficient amount of tetraethyl lead?

A. Unfortunately for us the General Motors program of [fol. 3826] sales had stepped up faster than they thought it was going to do and faster than we thought it was going

to do, so they were on our necks for the product all the time.

Q. Did there come a time when they asked you to build another plant?

A. By January, 1924, they asked us to triple the size of this first plant.

Q. These plants were all, as I understand it, under the bromide process, is that correct?

A. Under the ethyl bromide process, correct.

Q. Let me show you Government's Trial Exhibit No. 628, Mr. Harrington, which is a memorandum from Irene du Pont to the Executive Committee of the du Pont Company dated January 14, 1924. It reads:

"Gentlemen:

"This is simply to report that I have orally assented to an arrangement with the General Motors under which we are to build two additional tetraethyl-lead units of 200 gallons per day each, and the General Motors in consideration thereof have modified the quantity in our present contract increasing it to 1,100,000 lbs., price to remain as today—\$2.00 per lb.

"Mr. Harrington will shortly bring in a rush appropriation for this work which must be done as quickly as possible."

Do you know what it was, Mr. Harrington, that caused General Motors to ask you to triple your facilities at this time; what had happened on their side?

A. They were making better progress on sales than they thought. They thought in the first instance that they would find a considerable amount of opposition on the part of [fol. 3827] the big oil companies to accept tetraethyl lead in their program, and they found that was not correct. Some of the large companies desired to put tetraethyl lead in their program, and the result of that situation was that the demand for tetraethyl lead came along faster than it could be supplied.

Q. How long was it, if you recall, before these plants that are referred to in this January authorization were producing?

A. I would say about the late spring, they were in production. Maybe it was about June, I am not sure.

Q. They raised it to about 600 gallons per day, or 600 pounds per day, which is it?

A. 600 gallons.

Q. 600 gallons per day?

A. Correct.

Q. Can you state, Mr. Harrington, in as non-technical form as possible just what was the bromide method of production of tetraethyl lead? How did those plants we are talking about work?

A. I think maybe the first thing I should do is to describe all the equipment, tell what the equipment is, and the sequence of equipment, and then after arriving at an understanding of the sequence of the equipment, tell you how it would function.

The raw materials that were required were an alloy of lead and sodium. This alloy was prepared in an annex to the main building. We also required, as a raw material sodium bromide,—I mean ethyl bromide, and we used sodium bromide as the source of the ethyl bromide. That also was done in an annex of the building.

Now, the men set up all the equipment, and we had put into this building what we called reaction vessels which were agitated cast iron vessels with a cover and above was a reflux condenser.

[fol. 3828] Q. What is that?

A. Well, a reflux condenser is a bundle of coils in an outside casing in which the product you want to condense goes through the coils, and water surrounds the coils in the casing. The temperature will condense the ethyl bromide in this case, what we wanted to condense, and reflux back into the reaction vessel.

Q. Drain it back into the reaction vessel?

A. Yes.

Q. Is that what you mean by reflux?

A. When you reflux back, it means you drain it back.

Q. Yes.

A. The next piece of apparatus was an agitated still which was located in the floor below the reaction vessel. From there, attached to the still was another condenser that was there for the purpose of condensing the tetraethyl lead. Then there was a receiver below that which would receive the residue of the still which had been distilled.

Now, the process as it operates was that the alloy of lead and sodium had been ground to suitable size, probably about the size of a pea and charged into the reaction vessel which was agitated with a revolving arm. The ethyl bromide was fed in there under controlled conditions both with respect to the speed of the flow and the reaction of the reflux condenser.

The reaction, once completed, the whole mass was dropped down to the still below, which was agitated and charged, in which the tetraethyl lead was distilled from the reaction mass, the tetraethyl lead going to the condenser, and being recovered, and the residual mass being dropped down into a water receptacle in which the lead was allowed to settle.

The water was decanted, pumped through filters for the purpose of recovering the sodium bromide which was in [fol. 3829] the residual material. The other mass was taken out, and at that early stage of the game, put on a dump pile and ultimately sent to the smelter for recovery.

Q. Did you have any trouble in getting the process working after you had once successfully done it at the Jackson semi-works?

A. Well, I am not sure that we did not have a little more than the usual troubles going from the Jackson Laboratory semi-works to the full scale plant. We had considerable trouble going to the Jackson Laboratory scale, and I think we had a little more trouble at this time.

You see, when you go to a larger producing capacity, all of the problems and impurities and so forth that are in the raw materials become highly exaggerated, and we had a great deal of difficulty in keeping the ethyl bromide free from water and residual alcohol, and of course, when the water was allowed to remain as an impurity in the ethyl bromide, and that ethyl bromide was charged into the reaction vessel, we have like fireworks, because it was just the same as putting water on metallic sodium.

If you want a real Fourth of July, put water on metallic sodium.

Q. Well, let me refer you, Mr. Harrington, to Government's Trial Exhibits 657 and 659. The first one is a telegram from Mr. Kettering to Mr. Sloan. I don't need to read all of it, but let me read portions from the middle:

"We are unable to get sufficient lead from the du Pont Company to meet our requirements. (Stop) While program is being prejudiced on this account. (Stop) Can you get in touch with me if they are unable to meet schedule we will change our program relative to ethylizer."

[fol. 3830] The next one, Government's Exhibit No. 659 is a letter from Mr. P. S. du Pont to Mr. Alfred Sloan, and without reading it, it sets forth a schedule of the amounts delivered, the amounts called for in the contract then in existence, and the shortage, with some information about what du Ponts' plans were for the immediate future.

Does this reflect, Mr. Harrington, these documents, do they reflect the difficulties you have just described? A. Yes, they reflect the difficulty of our being able to get started, because of the difficulty in translating from a small semi-works to a full scale operation.

Q. Were you disturbed by this record in June, 1924?

A. We were quite disturbed because we are always disturbed when we are criticized by failures of this particular type, but we thought we could almost see our way out by that time.

Q. Did you after this keep up the schedule?

A. We kept up the schedule, but you notice also that Ket wanted more than we had agreed to give him.

Q. You refer to the sentence "Harrington expects to meet the schedule, though Kettering wants 700 gallons per day immediately"?

A. Yes.

Q. Now, Mr. Harrington, did the bromide process have disadvantages other than the manufacturing problems which you mentioned?

A. Well, we had already run into the fact, evidence of the fact, that the program, if it were to be expanded by the ethyl bromide process, it was definitely going to get into the position of shortage of sodium bromide in the country or in the world.

The quantity of sodium bromide available in the world was quite limited in the first place.

[fol. 3831] Q. You say sodium bromide? Is that the same as ethyl bromide?

A. Sodium bromide is what you make ethyl bromide from.

Q. I see. Had there been any other calls for bromide in connection with tetraethyl lead besides the manufacturing process?

A. Well, General Motors, you know, had solved their difficulties in their internal combustion engine of spark plugs and valves and so forth by the use of ethylene dibromide which was another call for bromine.

Q. That is the scavenging agent?

A. Yes.

Q. Does the use of tetraethyl lead require substantial quantities of ethylene dibromide?

A. Yes, it requires substantial quantities to put into gasoline to make it suitable for engine use, and of course that bromine was all lost.

Q. What happened to the bromine you used?

A. Well, the bromine was used in the process of developing the reaction, but was not part of the finished product so that that was recoverable, and we did recover probably somewhere between 80 and 85 per cent which we used in the bromine process of reaction.

Q. Is ethylene dibromide still used as a scavenging agent, do you know?

A. It is.

Q. Did there come a time, Mr. Harrington, when a process was developed or discovered for eliminating the need for bromine in the manufacture of tetraethyl lead?

A. Yes. Standard of New Jersey developed a process for making tetraethyl lead by the ethyl chloride process rather than the ethyl bromide process.

Q. When did you first hear about that?

A. I think it was in the spring of 1923.

Q. Did you know at the time whether it was a feasible [fol. 3832] process?

A. I didn't know whether it was or wasn't, but we had no reason to believe it wouldn't be.

Q. Did you try to use it?

A. At that early stage when we first heard about it, we didn't try. All we did was to go to the literature and see what we could find.

Q. Did you learn whether it was a patented process or not at that time?

A. Yes.

Q. What did you learn?

A. We learned it was a patented process and the patent was owned by Standard of New Jersey.

Q. Did there come a time, Mr. Harrington, when you were requested, or when du Pont was requested, to make a cost appraisal on something more than a laboratory basis, of the ethyl chloride process?

A. Yes, General Motors, or General Motors Chemical, asked us, in the late spring of 1923, to make such an investigation.

Q. Are you sure it was not 1924?

A. 1924, I mean. I am sorry. Yes, it was 1924.

We first learned of it in 1923, but they didn't ask to do this until 1924.

Q. Let me refer to General Motors Exhibit No. 85 which is a letter from Mr. Sloan to Mr. Howard dated May 6, 1924.

I would like to read, beginning with the second paragraph:

"With regard to your suggestion relative to a conference of your technical people, the du Pont technical people and Mr. Midgley relative to a better understanding as to the possibilities of the chlorine method, would advise that I feel a little anxious in the premises because the patent situation is so thoroughly undetermined. I have been informed that we have application for quite a number of processes which may or may not [fol. 3833] interfere with your applications. I do not know enough about the details to say whether they do or whether they do not and the last thing I would want to have happen would be to have some conflict or interference arise which would lead you to believe that we had taken advantage of anything you had disclosed to us. Therefore, in agreeing to your suggestion which I think will be helpful, I do so on the basis of your assurance, given over the telephone, that your patent situation is absolutely established to your entire satisfaction and that you are satisfied that there is nothing that your people can disclose to our people that would in any sense cause any confusion or inject any mis-

understanding or unpleasantness into a picture that is getting along so nicely.

"You appreciate, of course, that we would not in any sense take advantage of or permit anybody in our organization to take advantage of anything. It is not that—but what I want to avoid is the possibility of what might be an honest conflict of claims being interpreted as a lack of good faith on our part.

"In view of the fact that you say that you are satisfied I have written Mr. Midgley asking if he will take the matter up with you and advise you when an arrangement can be made, or in the event that he sees some reason why it is not advisable at this time that he communicate with you promptly."

Then I should like to refer to General Motors Exhibit No. 86 which is dated two days later, and is addressed to Mr. Sloan from Mr. Frank Howard, and read only the last paragraph:

[fol. 3834] "In the meantime, I hope that Mr. Harrington, of the du Pont Company, will be able to make a full investigation of our chloride method of manufacture; and I have given instructions to our Research Laboratory to see that he gets complete information on this, in the event that he is unable to begin on the matter until after my departure on Saturday."

Then I should like to offer du Pont Exhibit No. 115, which is a letter from Mr. Harrington to Mr. Thomas Midgley, General Motors Chemical Company, dated June 14, 1924, approximately a month later.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 115.)

By Mr. Horsky:

Q. Did you write this letter, Mr. Harrington?

A. Yes.

Q. I should like to read the first paragraph:

"We have made an examination of the Standard Oil Company of New Jersey's process for the manufacture of Tetra Ethyl Lead by the Ethyl Chloride

method and have been able to duplicate their accomplishments. The process followed is essentially the same as their process. After having accomplished the same yields as claimed by them, a comparative cost has been made of the Ethyl Chloride and the Ethyl Bromide processes, with the following results for material costs only. The Standard Oil Company of New Jersey's Ethyl Chloride process—approximately 48c; the Ethyl Bromide process, with what we look upon as reasonable goal yields and recoveries—approximately 52%."

[fol. 3835] That should be 52 cents?

A. That means 52 cents as is shown on the next page.

Q. (Reading):

"A detail of the make up of these cost calculations is attached."

Then turning to the last page, the last paragraph:

"We are giving this information to you with sufficient extra copies for you to transmit the same to the Standard Oil Company of New Jersey, or to use it in any other way that you see fit."

At the time you made this appraisal, Mr. Harrington, did you know that General Motors and Standard of New Jersey had agreed to form a new company?

A. No.

Q. Did you have any intimation from any source that General Motors and New Jersey were negotiating to form a new company at this time?

A. I don't recall that I had any information at all about that.

Q. What was your reaction when you learned about the formation of Ethyl Gasoline Corporation?

A. I was quite surprised.

Q. Did you have any idea at that time that du Pont would be asked by this new corporation to become the manufacturer for it?

A. You mean by the ethyl chloride process?

Q. By either process.

A. Well, it was perfectly evident that because of their present demands that we would have to continue to run the plants by the ethyl bromide process to make tetraethyl lead for a while, but whether they were going to call on us to manufacture via the ethyl chloride process, we had no information whatever.

[fol. 3836] Q. When did you first learn about what Ethyl's plans were with respect to du Pont's production under the ethyl chloride process?

A. Frank Howard came to see me in Wilmington. We went to the dye works.

Q. Can you date this approximately?

A. I think that was in the latter part of June, 1924, and he indicated to me or told me in fact—he didn't indicate; he told me—that they were planning to put down two plants, one of a thousand gallons a day and one of five hundred gallons a day, and that they would expect du Pont to put down this thousand gallons a day plant at the dye works, and they were considering as to whether they would put the five hundred gallon plant some other place.

Q. To be operated by du Pont or to be operated by someone else, the five hundred gallon plant?

A. The five hundred gallon plant was to be located some other place, and it wasn't stated at that time whether it would be du Pont or somebody else, but the implication was that it would be by somebody else.

Q. Did he mention at that time the manufacturing operation by Standard of New Jersey?

A. Yes, he told me that they had arrived at any arrangement with General Motors whereby they would put in an experimental one hundred gallon a day plant at Bayway.

Q. What position did you take on these proposals, if you recall, with Mr. Howard?

A. I took a very definite position in discussion with Mr. Howard in connection with the 1,000 and 500 gallon a day plants that they should be at that stage of the game at one place, and one management and under one control because of the hazards involved in the manufacture.

[fol. 3837] Q. And whom did you think should control them? Whom did you think should control them, du Pont?

A. Well, I thought at that time that probably we were

the best ones qualified to deal with the situation from a safety point of view.

Q. What position did you take on the 100 gallon a day plant at Bayway?

A. I didn't take any position on that. I had nothing to do with it. That was already accomplished.

Q. Let me refer you, Mr. Harrington, to General Motors Exhibit 87, which is a memorandum by Frank Howard, entitled "Status of Lead Tetraethyl Manufacture," dated June 26, 1924.

I would like to call your attention to the part on page 3 which is a summary. Skipping the first sentence:

"It is suggested, therefore, that the following manufacturing program be agreed upon."

Do you find it?

A. Yes.

Q. (Reading):

"1. Present 900-gallon per day plant to be continued at full capacity for the present."

That would be the bromine plant, I take it, is that right?

A. Yes, sir.

Q. (Reading):

"2. 100-gallon plant, chlorine process, to be installed at the Bayway Refinery, for the account of the Foundation Company—estimated cost, \$25,000 to \$50,000, exclusive of building, which is now available. Equipment is to be of a type which can be salvaged substantially completely for removal to other plants."

[fol. 3838] Then skipping down to paragraph 3, at the bottom of the page:

"Two additional large-scale chlorine process plants should be laid down as soon as possible; to be ready to begin operations before the gasoline season opens in 1925. It is suggested that one of these plants, of 1000-gallons daily capacity, be located at Penns Grove, to be operated by the du Pont Company; and that the second plant, of 500 gallons daily capacity, be located at some other point determined by a study of freight

relationships, to be erected and operated by the Foundation Company.

"Plans should be begun on both of these plants at once."

Is that substantially as you recall Mr. Howard's proposals to you at that time?

A. Yes.

Q. Now, after Mr. Howard came to Wilmington, did you begin negotiations looking toward the erection of this 1000-gallon a day plant under the chlorine process?

Did you begin negotiations for a contract, I should say?

A. Yes. We had already done a certain amount of evaluation work, semi-works-wise, as per the instructions from General Motors the early part of the year, and then at that particular time we started to establish a contractual relationship whereby we should proceed to set up this plant.

Q. Who conducted these negotiations?

A. I did.

Q. I should like to refer, your Honor, to Defendants Exhibit No. 99, du Pont 99, and just read the first and last sentences. This is dated September 3, 1924, and is an excerpt from the minutes of the meeting of the Executive Committee of du Pont. It states:

[fol. 3839] "Mr. W. F. Harrington, General Manager, Dyestuffs Department, appeared before the Committee and stated that he was negotiating a contract with the Ethyl Gasoline Company."

At the bottom of that page:

"After full discussion, it was moved and unanimously carried that Mr. Harrington be authorized to proceed with negotiations with the Ethyl Gasoline Company along the lines indicated above."

While these negotiations were going on, Mr. Harrington, were you also giving attention to the details of the physical construction of this plant; how you would build it?

A. Well, this contract was signed—I believe it was signed in October, about October 10th, I think, and of

course we had to arrive at an early conclusion as to what type of equipment we should put into that plant. Based upon our work we were trying to develop our ideas as to the equipment that should be installed.

Q. Can you give us, without being too technical about it, what kind of equipment you planned to use?

Mr. Harsha: Your Honor, I would like to object to this line of questions which involves a detailed chemical analysis, portions of the factory, and so forth, devoted to this. It seems to me entirely too technical for the issues involved in this case.

The Court: I think some of the details could be eliminated.

Mr. Horsky: This will be a general statement, your Honor, not detailed.

By Mr. Horsky:

Q. Will you state in general, without going into details, [fol. 3840] what kind of system you were planning for this plant, Mr. Harrington?

A. Well, we were planning to put in the type of equipment which would give us as near a closed system as we knew how to do at that time, and we felt we might approach that.

Q. What do you mean by a closed system?

A. I mean whereby you put the alloys in an autoclave at the start of the process, and you come out at the other end with tetraethyl lead, and you don't have any openings or breaks in the process at all.

Now that first job that we did and our first effort, we did not succeed in having that complete. We had two or three openings in the system that caused us trouble.

Q. You are referring to the ethyl bromide process?

A. Now I am talking of the ethyl chloride process.

Q. The first ethyl chloride process?

A. Yes.

Q. Was there any controversy with the Standard Oil people about the kind of process that you were to adopt?

A. Yes, we had a great deal of controversy on that. The fact is, I personally, I guess, was very highly criticized by

Standard of New Jersey because what they called—I think they probably went so far as to say I am pig-headed.

Q. What was their objection?

A. Well, they thought they had designed a process, type of equipment to go along with the manufacture of tetra-ethyl lead by the ethyl chloride process, and their equipment involved an autoclave that could revolve on trunnions and be removed from one place to another.

We on the other hand didn't like that approach. We elected to set up a system which would have the autoclave in a stationary position, horizontal, internal agitation, and [fol. 3841] which would have the opportunity of not being moved from one place to another but give us a much better approach to a closed system.

Mr. Horsky: I think we have come to a convenient place to stop.

The Court: The Court stands recessed.

(Whereupon a recess was taken until 2:00 o'clock p. m. of the same day, Monday, April 13, 1953.)

RECESS

[fol. 3842] The Court: Proceed, please.

WILEY F. HARRINGTON, a witness called on behalf of the Defendants, having been previously duly sworn, resumed the stand, was examined and testified further as follows:

Direct Examination (Continued).

By Mr. Horsky:

Q. Mr. Harrington, before luncheon you were telling us of a dispute which you were having with the Standard Oil representatives with respect to the design for the construction of the ethyl chloride plant.

How was that dispute resolved?

A. Well, we were asked to go to Bayway to see what Standard of New Jersey had at Bayway so that that could convince us of the type of equipment that we should put in.

Q. Did you go?

A. We did.

Q. Alone?

A. No. I took four chemists and two engineers with me.

Q. Will you describe what the circumstances were of the trip, and what happened?

A. We went up to Bayway and the Standard of New Jersey people took us through the operation. It was then in operation. They took us through and showed us how the job was done, and all about it.

[fol. 3843] Q. In very simple language, and without any details, what was their process?

A. Their process consisted of an autoclave which was of boiler plate, with conical ends, each end covered with a cover plate over the manhole. It revolved on trunnions, dipped into a bit of water, and also had water on the surface.

The reaction—the sodium lead was put into the autoclave with steel balls. When it was revolved, ethyl chloride was introduced through one of the end manhole plates. The reaction being completed, the manhole plates on both ends were taken off and refitted with other manhole plates with other type of accessory equipment.

The whole thing was picked up by traveling crane, inverted 90 degrees, and taken over to the side of the room, and placed on a rack where it was connected up with a still, connected up with steam, and the steam distillation process took place.

I said connected up to a still. It was connected with a condenser, I mean, and the tetraethyl lead was distilled and condensed in the condenser and recovered.

The autoclave then was picked up again and taken over to another portion of the room where it had the bottom cover plate taken off and the whole residual mass was dropped down onto a grid that was in the floor.

The grid was sufficiently narrow so that the balls wouldn't go through, but the material was a bit gummy and sticky, and so forth, so it wouldn't readily go through the grids, and manpower had to put it in with shovels, rubber gloves and rubber boots, and so forth, to try to put the material through into containers below and recover the balls for subsequent use in another charge.

[fol. 3844] Q. What was your evaluation of this process? Yours, personally?

A. I personally thought it was too dangerous a process for us to use.

Q. What was the opinion of the other people? Did you determine the opinion of the other people that went with you?

A. On the way home I took each one of the six fellows aside individually and asked them their opinion of the process, and I got a perfectly unanimous agreement with my opinion to the effect that the process was too dangerous for us to use, and that we ought to continue and proceed and insist on putting in the type of apparatus which we were considering and thinking about at the time, and which was the one that we were thinking about as being as near as possible to being a closed system.

Q. Did you inform Standard of New Jersey of that decision that you reached?

A. We did, after we got home.

Q. How did you do this, by letter or by telephone call, or what?

A. Oh, I think I telephoned them right away that we just couldn't use that process. You see, we were rather in a position of being urged and rushed at that time, so we couldn't waste the time of sending a lot of letters back and forth. We had to talk things out on the telephone.

Q. Did you thereupon get permission to construct a plant in your design?

A. We got permission from Ethyl Gas for us to go ahead and construct the plant that we were prepared to operate in our own design. They allowed us, permitted us to do as we pleased in the design.

Q. When did you actually start constructing this plant?

A. Well, actually we started driving piles, I think, on the 2nd of September.

[Vol. 3845] Q. When was it completed.

A. On the 28th or 29th of December.

Mr. Harris: What year?

By Mr. Horsky:

Q. What year is this, Mr. Harrington?

A. 1924.

Q. I call your attention to Government Trial Exhibit No. 675; Mr. Harrington, to the contract dated October 10,

1924. Was the construction started before the contract was signed?

A. Yes, sir.

Q. And this is the contract, is it not, which provides for du Pont production by the ethyl chloride method?

A. Yes, sir.

Q. During this period, by the way, was the bromide plant also operating?

A. It was still operating.

Q. At capacity?

A. Yes.

Q. This contract, Mr. Harrington, is also signed by Irene du Pont. I think you said earlier, before luncheon, that you negotiated that, is that correct?

A. That is correct.

Q. Can you explain why this contract was also signed by Irene, rather than yourself?

A. The same reason applied to this one that I gave you on the other one.

Q. There has been some testimony about the Bayway disaster in this case already, Mr. Harrington. But briefly how much of a contribution did the Bayway plant make to production at this time?

A. Oh, I have forgotten. I would say 40,000, 45,000 pounds of tetraethyl lead.

Q. How long did it operate, do you know?

A. I think it operated five or six weeks.

Q. Then, in a word, what happened?

A. Then they had the big accident, and the Standard of New Jersey closed it down and never re-opened it again.

Q. So that we all understand what we are talking about, [fol. 3846] what was the accident you speak of?

A. Well, the whole crew of employees that were working with the ethyl chloride process manufacture in the Bayway plant became poisoned and a number of them died.

Q. During this period in late 1924 and early 1925, did du Pont continue to produce tetraethyl lead?

A. Yes.

Q. Did it increase its production or decrease its production you recall?

A. No, we increased the production because we were producing all we could in the bromide plant at that time,

and then about in the first week of January, 1925, we put the ethyl chloride plant in operation.

Q. Was the bromide plant continuing to operate at that time?

A. Yes, the bromide plant was still operating.

Q. Did there come a time when the publicity from the accident at Bayway caused a slow-down in production?

A. Yes, immediately after the first of the year, we were advised to withhold and slow up on our deliveries of tetraethyl lead to Ethyl, because sales had been so affected by this Bayway disaster that they did not know what to do with the tetraethyl lead if we sent it to them.

Q. Let me come to the matter of the hazard of this. Did du Pont Company have fatalities in connection with its production?

A. It what?

Q. Did the du Pont Company have fatalities from its working force in producing tetraethyl lead?

A. Yes, unfortunately it did.

Q. Were the accidents at du Pont at that time similar to the accidents that they had at Bayway?

A. Well, I would say that they were not similar in the sense they did not occur in a mass reaction at one time, but it occurred one at a time over a period of about a [fol. 3847] year and a half, something of that order.

Do you want me to give you the details of those accidents which resulted in deaths?

Q. No, I do not need the details of the individual accidents, but generally, what did du Pont do to try to prevent it?

A. What we did, every time we had a mishap, whether it resulted in death, or whether it resulted in only lead poisoning, we attempted to modify the apparatus there by changing the apparatus or improving the apparatus in a certain way to try to get rid of the danger.

The fact is in the early part of 1925, after we got the chloride plant in operation, we had to shut the whole thing down for quite a long time for the purpose of trying to correct an error that we had discovered.

Q. Did there come a time when you were told by Ethyl to cease production?

A. Yes, in the early part of May, 1925, we were ordered to shut everything down.

Q. By that time, did you believe that you had about solved the problem how to make tetraethyl lead, or how to manufacture it safely?

A. Well, I thought I had arrived at that conclusion at that particular time, otherwise I could not have done some of the things that I did later. We visualized at that particular time that we were going to make a completely closed system out of the tetraethyl process or the ethyl chloride process from the start, from the time the alloy went in until the time the tetraethyl lead came out.

Q. Let me ask you, Mr. Harrington, was the ethyl chloride process essentially safer, or essentially more dangerous a process than the bromide process?

[fol. 3848] A. It was essentially far more dangerous a process than the bromide, because the bromide worked at atmospheric pressures, and the chloride process had to work at somewhere in the neighborhood of 125 pounds pressure.

Q. Inside the autoclave?

A. Inside the autoclave.

Q. Now, Mr. Harrington, the record shows that early in December, the Surgeon General of the United States had written, presumably to General Motors, and perhaps to du Pont, expressing his interest in the matter of the sale and manufacture of tetraethyl lead.

In or about December, did you have any contact with the Surgeon General?

A. Yes, Frank Howard and I went to see him personally.

Q. Where was that?

A. In Washington.

Q. Can you recall his name?

A. Doctor Cumming.

Q. What was the nature of your conversation with him?

A. Well, we thought that the ethyl lead situation had gotten into a very much confused situation, and it was our desire that we would like to have the Surgeon General accede to the public demand of a hearing and investigation and so forth for the purpose of definitely developing the facts that were involved in the manufacture and distribution and sale of tetraethyl lead.

We primarily went to see the Surgeon General to encourage him to try to call that particular investigation, or call a meeting for an investigation. We also wished to ask him if he would not, at that particular time, delay his call for a hearing until such time as the work that was going on at Columbia University, also at the Bureau of Mines, could be reported out as to their findings, so that the information that was available at the time of the hearing would be just as complete as possible.

Q. Did he agree to do that?

A. He did, yes.

Q. Then there came a time, as the record indicates, in May of 1925, when there was a hearing. Do you recall that?

A. Yes.

Q. You attended that, did you?

A. I did.

Mr. Horsky: I would like to refer your Honor to General Motors Exhibit No. 261, which is an excerpt from the proceedings of the conference to determine whether or not there is a public health question in the manufacture, distribution or use of tetraethyl lead gasoline.

The bulletin is dated August, 1925, and it refers to the meeting that took place as indicated on page 7, on May 20th, 1925.

By Mr. Horsky:

Q. Did anybody else from du Pont Company go down with you, Mr. Harrington?

A. What was that question?

Q. Did anybody else from the du Pont Company attend this meeting in May of 1925?

A. Yes, I think Mr. Irene du Pont attended the meeting.

Q. Was there anyone there from General Motors?

A. Yes, I think that General Motors was represented by Kettering there, and I think Midgley was there, and I think Doctor Kehoe was there.

Q. And Mr. Howard was there from Ethyl?

A. Yes, Mr. Howard from New Jersey was there.

Mr. Horsky: I would like to read from page 8 of this, your Honor, beginning about the third full paragraph. [fol. 3850] Those are remarks by the Chairman, Surgeon General, H. S. Cumming. He says—

The Witness: What page is that?

Mr. Horsky: Page 8, at the bottom of the page.

“The Public Health Service, particularly through its division which has to do with the study of problems relating to industrial medicine, has long been interested in lead poisoning in the industries and has made some investigations along this line. We were therefore interested two years ago when we learned that one of the large corporations in this country in its endeavor to increase the efficiency of fuel used in internal combustion engines was experimenting with certain lead compounds to be used in commercial gasoline.

“A little later on the question of an investigation as to the effect of these compounds came up, and after a conference with representatives of the Bureau of Mines it was determined, in view of the fact that the Public Health Service had no funds available for the purpose, that the investigation should be made by the Bureau of Mines.

“Early in the winter I received letters from several gentlemen who had been interested in the matter, inviting attention to the potential dangers in the general use of tetraethyl lead and suggesting that a conference be called to consider the matter. After correspondence with everyone engaged in such investigations, so far as we could ascertain, it was determined that a conference at that time would be some- [fol. 3851] what premature in view of the fact that none of the investigations had been completed.

“Upon completion of the preliminary report of the Bureau of Mines, and after a conference with Doctor Sayers and the staff of the Hygienic Laboratory, I decided that it would be advisable to hold a conference as soon as practicable, and found that the report of the medical committee working at Columbia University, together with other reports would be available about the middle of May. I therefore took the liberty of requesting you to be present at this time.

"It seems unnecessary to inform you that this is in no sense a legal hearing; in fact, there are no Federal laws which authorize the Public Health Service to take jurisdiction regarding the interstate shipment of substances such as tetraethyl lead, even should it be determined that they are injurious to public health. On the other hand, it is the duty of the Public Health Service to investigate such questions and to inform the public as to the result of its investigations, restrictive measures being part of the police power of the several States and municipalities."

Q. Now, Mr. Harrington, did you make a statement on the manufacturing problems at that conference?

A. Yes, I did.

Q. I refer you to page 16, and I should like to read what Mr. Harrington said. It is quite brief, your Honor, and I think it is pertinent.

Statement by Mr. Harrington, representing the E. I. du Pont de Nemours & Company.

[fol. 3852] "Mr. Chairman, ladies and gentlemen, I understand that what you want first is the question of information as to whether in our opinion tetraethyl lead can be manufactured safely.

"The Chairman: We would like to have that.

"Mr. Harrington: I imagine this is the most important factor of discussion, and it is the manufacturing factor which I am prepared to discuss right now. The tetraethyl lead desired by the Ethyl Gasoline Corporation has been manufactured by the du Pont Company. We were called upon to manufacture, and we proceeded with the effort to determine a method of manufacture because at the time that this work was started no method of manufacture was well-known; the product was almost a laboratory curiosity. The research work had to be conducted in the laboratory and carried into the semi-works for further experience, and finally manufacture was started in the newly constructed plant. I am prepared to say now, after the experience that we have had in the last two years in the manufacture of tetraethyl lead by the ethyl chloride and the ethyl bromide processes, that tetraethyl

lead can be safely and properly manufactured. I believe that I can also give sufficient evidence to prove the correctness of such an assertion. We started out originally to manufacture tetraethyl lead by the ethyl-bromide process. We got into trouble. We did not have a background necessary to prevent some of the difficulties which are always incumbent upon manufacturing operations when going from the laboratory [fol. 3853] scale into plant scale of manufacture. We had fatalities. The last we had in the manufacture of tetraethyl lead by the ethyl-bromide process was in July, 1924.

"Up to that time we had manufactured approximately 400,000 pounds of tetraethyl lead. Since that time in the plant we have manufactured something like one and three quarters million pounds of tetraethyl lead without any serious mishaps. The fact is that in this plant we have not even had any man very seriously sick, and yet we have had, as is always to be expected, certain mechanical mishaps, so-called messes, which are the result of mechanical failures and which have had to be housecleaned. About a year ago it was realized that bromine had to be used with tetraethyl lead in making ethyl gas. There was not a sufficient supply of bromine in sight at that time to treat the ethyl gas. At about this time a process for the manufacture of tetraethyl lead via the ethyl chloride route was developed. This process seemed to be simpler than the ethyl-bromide process and attended with no more hazards of manufacture. Here again a long laboratory experimentation was carried out followed by long experimentation in the semiworks. A plant was then designed and constructed according to the most modern ideas as to industrial safety and ventilation. No expense was spared to insure safety of operations. However, we did err in our calculations in the design of this plant, with the result that difficulties were encountered when the plant was started and fatalities occurred. The plant was closed down, the difficulties in [fol. 3854] ventilation and operation was corrected and manufacture was resumed on March 25 of this year. Until the closing down on the first part of this

month, when at the request of the Ethyl Gasoline Corporation the manufacture was discontinued, we have manufactured successfully some 50,000 pounds. No men at all in this plant, since we rectified errors and resumed operation in March, have shown any physiological symptoms of poison, so that I can say, and I think I can say with correctness and conviction, that tetraethyl lead can be safely manufactured. I say that for the du Pont Company, and I think that the du Pont Company has a right to a conviction as to what can be done in the way of manufacture of dangerous chemicals. That has been the experience of the du Pont Company almost through its whole period of existence—first, the manufacture of black powder, then the manufacture of dynamite, smokeless powders, detonators—all these products have been manufactured successfully. If there is any question of doubt I refer to the statistics. More recently we have manufactured organic chemicals also of a dangerous nature. Truly we have had a background in the manufacture of various chemicals which has been of inestimable assistance in assuring safe performance. We have, moreover, manufactured successfully such products as aniline, nitrobenzol, dinitrobenzol, nitro-chlorbenzol, etc.

“One seldom nowadays hears of an aniline poisoning case coming from a plant where aniline is manufactured. Nitrobenzol falls in the same class as a poisonous article. Dinitrobenzol is even worse, and nitro-chlorbenzols, in my opinion, are still worse. We are successful manufacturers of every one of these [fol. 3855] products. We have no doubt at all from a manufacturing point of view that tetraethyl lead in proper hands, in the proper plant design, and under a proper discipline can be manufactured successfully.”

By Mr. Horsky:

Q. Mr. Harrington, did anyone else speak on the question of manufacture?

A. What is that?

Q. Did anyone else speak on the question of manufacture?

A. No.

Q. Did you get any questions addressed to you at the conclusion of your remarks?

A. No, there was a great silence.

Q. Referring to this report again, Mr. Harrington, there is an indication—no, I should refer you to General Motors Exhibit No. 262, which is a subsequent bulletin of the United States Public Health Service which indicates at page 4 that a resolution was passed at the conclusion of the first meeting in May of 1925, without reading it, and at the top of page 4, that a medical committee should be appointed to investigate, and you will notice on page 4 the names of the seven doctors who were members of the committee.

Was that a distinguished group of doctors, in your judgment?

A. I think that was one of the most distinguished groups of doctors that you could possibly pick out in the United States at that time.

Q. Did these doctors visit Deepwater?

A. Yes.

Q. Did you meet them at the time?

A. Yes.

Q. Will you describe the circumstances of their visit?

A. Well, they came to Wilmington to investigate the manufacturing process and the manufacturing problems [fol. 3856] with respect to tetraethyl lead.

Q. Could I ask you to indicate this before we go further, the date?

A. I think it was in July, 1925.

Q. Very well.

A. I explained the whole situation to them, and the whole process to them, and our ideas and all of that kind of stuff in Wilmington, and then I took them over to the dye works and took them through the plant, and showed them the changes that we proposed to make, and the changes—and the conditions under which the processes would operate after the changes were made.

They seemed to be quite agreeable with our suggestions as to the changes and improvements and so forth.

They made some additional suggestions and improvements which we thought were good, and also incorporated into our subsequent changes in the plant.

Our idea at that time, which we tried to demonstrate and

explain to them, was that we started out with the idea of perfecting a closed system. We failed to do the job with respect to a fully closed system at the start, but we had at that time developed the ideas as to how we were going to have a completely closed system, and we showed that particular type of approach to them, and they seemed to be entirely satisfied with that as a means of manufacturing tetraethyl lead.

Q. You say at the conclusion of their visit their attitude seemed to be favorable towards your proposals?

A. It seemed to be, yes.

Mr. Horsky: I would like to refer, your Honor, to General Motors Exhibit No. 92, which is an excerpt from the minutes of the meeting of the Executive Committee of [fol. 3857] General Motors in October, 1925, in which it is reported, the president reported that:

"Progress is being made by the U. S. Surgeon General's Committee appointed to investigate the question of injurious effects of ethylized gasoline. This Committee has visited the du Pont Company's plant at Deepwater, New Jersey, and apparently was very favorably impressed by the precautions taken in the manufacture of this compound and so far as we know the Committee has seen nothing which would justify its taking the position that the sale of tetraethyl lead involves a hazard any greater than many other manufacturing operations. The President said that he feels quite confident that the Committee's report will not be unfavorable to our continuing production of this compound."

By Mr. Horsky:

Q. Did there come a time when the medical committee reported?

A. Yes, they reported to the Surgeon General in a meeting which, as I recall, was held in January, 1926.

Q. Did they report favorably on manufacture, on the continuation of manufacture?

A. They reported favorably on the ability—or they reported favorably on the propriety of marketing and selling tetraethyl lead which included the manufacture of tetra-

ethyl lead, though they made very little remarks in their report on the question of manufacture, except to provide a suggestion as to precautions to be taken medically.

Q. Let me refer you, Mr. Harrington, to General Motors [fol. 3858] Exhibit No. 262. Is that the volume you have in your hand?

A. 262.

Q. Yes.

A. Yes.

Q. Will you turn to page 20 of that bulletin?

A. Page 20, I have it.

Q. This is entitled "Proposed Regulations for the Manufacture of Tetraethyl Lead and the Blending of the Latter to Make Ethyl Fluid."

Mr. Harrington, do those regulations tell you how to make tetraethyl lead safely?

A. No, they told you the medical precautions to take in connection with the manufacture, but they didn't tell you how to make it.

Q. Did they tell you anything about the process of manufacturing tetraethyl lead?

A. As I have read it, in the past, they don't tell you anything whatever about the manufacturing process.

Q. Did du Pont abide by these regulations?

A. How?

Q. Did du Pont abide by these regulations?

A. We tried to adhere to them very strictly.

Q. Now, what happened with respect to the resumption and sale of tetraethyl lead following this report? Was this report the signal for the resumption of manufacture and sale?

A. Well, that relieved any restrictions with respect to the manufacture and marketing and sale of tetraethyl lead, but Ethyl Gas had to decide whether it was going to resume the marketing or whether it wasn't.

Ethyl Gas had voted, back in May of 1925, that it would discontinue its whole process of manufacture and sale.

Q. Did it make a decision? Did it then make a decision as to whether it would proceed?

A. Yes, after a considerable amount of discussive effort between Mr. Teagle and Mr. Sloan they decided that they

[fol. 3859] would proceed with the sale of tetraethyl lead and that meant they would proceed with the manufacture of tetraethyl lead.

Q. Were you present at those discussions between Mr. Teagle and Mr. Sloan?

A. I was.

Q. Where did they occur?

A. They occurred in a hotel in Washington on the night of the day that the Surgeon General's report came down saying that there should be no prohibition on the sale, or the marketing, of tetraethyl lead.

Q. Can you recall some of the circumstances of some of the discussion that evening?

A. Do I recall what?

Q. Any of the details of the discussion that went on that evening?

A. Well, all I know is that after the Surgeon General's report was propounded, that afternoon the representatives of Ethyl Gas telephoned to Mr. Sloan and to Mr. Teagle and got them to come to Washington so that that evening the whole subject was discussed over a long period of time, really up to the middle of the night, before they arrived at a conclusion that they would go ahead and take up the sale again.

Q. Did they at that time give du Pont instructions to get ready to resume manufacture?

A. Well, they did within a few days after that, yes.

Q. What did you have to do to get ready to resume?

A. Well, we had to do quite a lot of things to the plant in order to bring it to this so-called closed system that I had been talking about which meant some very extensive mechanical changes and which taxed the ability of the designing engineers extensively, but nevertheless they succeeded in doing the job.

Q. Did you have to get permission from New Jersey, the State authorities in New Jersey?

A. Yes, we had to get permission from the State of [fol. 3860] New Jersey manufacturing authorities. After we had modified the ventilating system to a very considerable extent and done all of the rest of these jobs we got the State of New Jersey to send their personnel down to investigate the job.

They did come down and investigate the job and gave the approval for the resumption of manufacture.

Q. Did these regulations which we looked at a moment ago from the Surgeon General's committee come out at the same time in January as the report?

A. Well, it took quite some time to get most of those regulations formulated. I would think that it was—before all of them were out, so far as the marketing condition was concerned, it was several months later.

Q. What I am getting at is did you have to wait to resume manufacture until the regulations of the Surgeon General came out?

A. We didn't have to wait on account of the regulations. We had to wait until we got the plant in shape to go ahead which meant we didn't resume manufacture until early in June.

Q. Did you then in June resume manufacture by the chloride process, is that it?

A. That's right, but not by the bromide process.

Q. There are in evidence, Mr. Harrington, in Government's Trial Exhibit No. 706, three contracts between du Pont and Ethyl Gasoline, all dated March 31, 1926.

The first one in order in that exhibit is a blending contract; the second is a manufacturing contract; and the third one is a contract by which du Pont agrees to devote exclusively to Ethyl for a period of years its facilities for manufacture at Deepwater.

[fol. 3861] Who negotiated these contracts?

A. I did.

Q. Let's take these up in this manner. Let's take up the exclusive rights contract first, the one that begins at page 12 of that exhibit you have in your hand, and goes over to page 14.

Mr. Harsha: Which number is that?

Mr. Horsky: They are all Exhibit No. 706. There are three contracts in the same exhibit. This is page 12.

By Mr. Horsky:

Q. In general, what did this contract deal with, and what did it dispose of?

A. Well, when the tetraethyl lead activities were discontinued back in May, 1925, under the terms of the con-

tract du Pont was permitted to be reimbursed for its expenditures in putting up the ethyl chloride plant, and so forth.

There was a big argument as to what the settlement should be. Our Treasurer's Department, in connection with the terms of the contract, sent a bill to Ethyl Gas. Ethyl Gas highly objected to some of the bills, and a great many of them were settled, but the question of the ownership of the plant on our property at Deepwater, that really never was settled until after this resumption of manufacture—I mean after the new contracts were made which were in March of 1926.

The point was that Ethyl took the position that they ought to own the plant if they paid for it. We were willing to give them the salvage value of the plant if they wanted it, and all that kind of stuff, but we could not have them own the plant in the middle of our activities over there which might seriously interfere with our activities. The [fol. 3862] plant was no good for anything except the manufacture of tetraethyl lead.

Now when manufacture was resumed, all this difficulty and argument washed out, and everything came around to the point where I was able to make a deal with Mr. Webb as to putting the plant back into operation, and so forth, and all of our differences and so forth were settled.

Q. Where was the ethyl chloride plant built?

A. This chloride plant was built on the dye works property about the middle of the plant on the Delaware River side of the plant.

Q. Is that where the bromide plant had been or adjacent to it?

A. That had been a bit north of that, but not too far away.

Q. Is that where du Pont still manufactures tetraethyl lead, at that same location?

A. Yes.

Mr. Horsky: I would like to offer du Pont Exhibit No. 116.

(Said document so offered and received in evidence was marked du Pont Exhibit No. 116.)

By Mr. Horsky:

Q. I call your attention to a paragraph in that, at the bottom of page 7, Mr. Harrington, beginning at the last three lines: This is Mr. Webb, writing to Mr. Sloan and Teagle, to bring them up to date on negotiations for adjustment of the lead contract, and is dated August 6, 1925:

"Inasmuch as Mr. du Pont was adamant in his position about salvage or conversion value of the plant, and stated that his position on the subject would remain unchanged no matter how long I urged our contention, and realizing that there was no hope of me and I reaching an agreement, I told him that we might be stirring up trouble over a matter which may be of no particular importance after the decision of the Surgeon General; for if the decision is favorable and we make another contract with them this salvage problem will have answered itself, and therefore, suggested that it be left to await the decision of the Surgeon General's Committee; and that meanwhile we will not make any further payment; that if subsequent to the Committee's report we should decide not to make another lead contract we then attempt to agree upon the balance due from the standpoint of our having or not having any interest in the plant, with the understanding that we agree now upon the Power, Riverside Club and Research items. However, I told them I personally felt that our Board would be willing to let the entire subject go over until after the Committee's report.

"This suggestion was not acceptable to Mr. du Pont, who stated that there was no reason why the whole matter could not be disposed of at this time."

I would like to ask you, Mr. Harrington, if Mr. Webb's solution was the one that was finally adopted?

A. Yes. It wasn't settled. It remained until after the making of this contract in March, 1926.

Q. Which was after the Surgeon General had reported?

A. Which was after the Surgeon General's report.

Q. Now let's turn to the second contract, which is in [fol. 3864] this Government's Exhibit No. 706, Mr. Harrington, the one which begins at page 6. This is also dated

the 31st of March, 1926, and provides for the production of tetraethyl lead by the chlorine method with the price of \$1.00 a pound.

I notice that this contract contains no provision which grants back to Ethyl any patents or improvement processes that you might develop, which had been in the 1924 and 1922 contracts.

Can you explain why that was omitted in this contract?

A. Well, I would say probably the chief reason that it was omitted was because we had recognized the fact that it didn't give us any incentive towards research and development of the programs, processes, and so forth, so that when this contract was written and the thing was resumed, that question of patents was left out.

Q. Why did it not give you any incentive? Can you explain a little bit why it didn't give you any incentive?

A. Well, if we spent money on work on the manufacture of processes and the ideas, and developed ideas, and so forth, they all had to be granted to Ethyl Gas, and the tendency was for us not to spend money on that type of work where we should have been spending money on it.

Q. Do you recall whether there was any particular argument or controversy about the omission of this clause in the 1926 contract?

A. I can't remember we had any discussion or any argument on it at all.

Q. Would you turn, Mr. Harrington, to page 9 of that exhibit, and refer to paragraph VII, at the bottom of page 9. That paragraph reads:

"In view of the obligation of the Buyer to be responsible for the liquidation of stocks of, and commitments for, raw materials purchased for use in fulfilling this contract (as set forth in paragraph V) it is provided—because of the peculiar circumstances connected with Ethyl Chloride—that the Buyer—"

The buyer was Ethyl, was it not?

A. Yes.

Q (Reading):

"—that the Buyer shall have the right to disapprove any contract to be made by the Seller covering

Ethyl Chloride, but on the understanding that if the Buyer shall fail to approve any such contract, and shall fail to provide Ethyl Chloride from some other source on terms equally satisfactory to the Seller as to quality, price and deliveries, then the Seller shall have the option to terminate this agreement with obligation on the Buyer to make reimbursement as in said paragraph V provided."

At whose request was that paragraph inserted, Mr. Harrington, if you recall?

A. As I recall, Mr. Webb's.

Q. Do you remember what the circumstances were which led to the inclusion of that paragraph?

A. Well, as I recollect, I think Mr. Webb had been in discussion with Dow about that time.

Q. With whom?

A. With Dow Chemical Company, about some other things, and he sort of had an idea that he ought to have the right to supply the material if he wanted to, and we said, "O. K."

Mr. Horsky: In that connection, I would like to offer, your Honor, du Pont Exhibit No. 117, which is a letter to Mr. Harrington from Mr. Mittnacht, dated March 30, 1926, [fol. 3866] which is the day before this contract we have just been referring to was signed.

(Said document so offered and received in evidence was marked, du Pont Exhibit No. 117.)

Mr. Horsky: It reads as follows:

"Confirming this morning's telephone conversation Mr. Webb wired from Saginaw that he has closed a contract with the Dow Chemical Company for our requirements of Ethyl Chloride. He suggests that a clause be included in the lead contract which we are negotiating with you to the effect that before you make any other commitments for Ethyl Chloride, you first undertake to inform us the price of such expected commitment and all Ethyl Chloride purchased shall be at the price so advised, unless we elect to supply it on better terms, in which case the du Pont Company agrees

to purchase it from us or our nominee. As I see it, he is probably pretty well agreed with Dow on price and he doesn't want you to have the right to make further commitments with anyone else until we have had a chance to meet the price of bids from other parties. We hope you are agreeable to such a clause."

By Mr. Horsky:

Q. Does that refresh your recollection that that was the circumstance?

A. I think that was the circumstance.

Q. Now, this contract, Mr. Harrington, this production contract which we are examining, runs, as I remember, for two years. Was it followed by subsequent production contracts?

A. It was followed by many other contracts.

[fol. 3867] Q. How many of them did you personally negotiate?

A. I was the negotiator until the time I left the Dye-stuffs Department and became a member of the Executive Committee, which was in July, 1929. After that Mr. Robinson, my successor, was the negotiator.

Q. Do you recall generally whether these contracts were at the same price or whether the price changed as you went along?

A. I think almost every contract succeeding the previous one was at a lower price.

Mr. Horsky: Your Honor, I think the contracts are all in evidence with one exception, and I should like to offer du Pont Exhibit No. 118, which is a letter contract dated September 29, 1933, signed by Mr. Robinson, and addressed to the Ethyl Gasoline Corporation, which is the only one omitted of which we are aware.

(Said document so offered and received in evidence was marked du Pont Exhibit No. 118.)

Mr. Horsky: That would mean that these production contracts in order are Government's Trial Exhibit No. 706, which is the one we have been discussing, Government's Exhibit No. 745, 747, 752, 753, 754, du Pont Exhibit No. 118, Government's Exhibit No. 757, 758, and 759.

I should also like to offer, your Honor, in this connection,

du Pont Exhibit No. 119, which is a table of the average prices and the sales volume of tetraethyl lead for the years from 1926 through 1937.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 119.)

[fol. 3868] By Mr. Horsky:

Q. Mr. Harrington, perhaps you will help me correct what I think is a misprint on this exhibit. This should say, should it not, in millions or in thousands of pounds?

A. What is your question?

Q. Should the first column, which is the number of pounds sold, be in terms of thousands of pounds rather than simply 657 pounds, for instance?

A. It should be in terms of 657 thousand, and the rest of the figures should be in terms of millions.

Q. Yes.

Mr. Horsky: This shows, your Honor, that beginning in 1926, the average price paid by Ethyl for lead was \$1.433, and by 1937 the average price paid had gone down to .264 cents.

It also shows in comparing the years 1930, 1931 and 1932 that the price was decreasing, notwithstanding the fact that the volume was also decreasing.

Q. What was the cause of that, Mr. Harrington?

A. What was the cause of the reduction in price?

Q. Why should the price go down and the volume also go down?

A. Well, we had demonstrated that we could get far more out of our equipment than it was originally designed for. We had been able to reduce our cost, not only from the point of view of increased volume, but from the point of view of increased manufacturing quantity per unit of tetraethyl lead manufacture, and therefore we felt entitled to give tetraethyl—to give Ethyl Gas the benefit of a part of the savings.

[fol. 3869] Q. With whom did you negotiate? Who was the negotiator for Ethyl Gas while you were negotiating?

A. Mr. Webb.

Q. Was he an easy man to negotiate with?

Mr. Harsha: I object to that, your Honor.

The Court: Sustained.

By Mr. Horsky:

Q. Was Mr. Webb a good negotiator in your opinion?

A. How is that?

Mr. Harsha: I object.

The Court: Sustained.

By Mr. Horsky:

Q. Did you regard the Ethyl Gas negotiations as easy negotiations?

Mr. Harsha: I object. The results will show.

The Court: Sustained.

By Mr. Horsky:

Q. What formula did you use for determining the price at which you would sell lead to Ethyl while you were negotiating, Mr. Harrington, if any?

A. Well, while I was there, I simply negotiated with Mr. Webb at an arm-length basis, and I tried to get what I considered a reasonable return for us.

Mr. Harsha: That, I move to strike. He was asked if there was a formula.

Mr. Horsky: I said, "if any."

Mr. Harsha: It is a self-serving statement to modify the negotiation.

[fol. 3870] The Court: Overruled.

By Mr. Horsky:

Q. What was Mr. Webb seeking to do?

A. What was what?

Q. What was Mr. Webb seeking in his negotiating with you to do?

Mr. Harsha: I object, your Honor. How could he state what was in somebody else's mind?

The Court: Sustained.

By Mr. Horsky:

Q. Were there occasions, Mr. Harrington, when du Pont decreased the price at which it sold tetraethyl lead to the Ethyl Gasoline Corporation while a contract was in effect?

A. There were many cases.

Mr. Horsky: I would like to offer, your Honor, Defendant du Pont Exhibits 120; I would like to offer three of them, du Pont's 120, 121 and 123; I think it is,—no, du Pont's 123, 124 and 125.

(Said documents so offered and received in evidence were marked du Pont Exhibits Nos. 123, 124 and 125.)

Mr. Horsky: The first one is a letter from Mr. Robinson to Mr. Mittnacht, dated June 14, 1934, Mr. Mittnacht being addressed as secretary and treasurer of the Ethyl Gasoline Corporation. It states:

"Following our conversation in Wilmington last week; we have studied the basis of our agreement under which we agreed to make a price reduction to [fol. 3871] you on Tetraethyl Lead if it should prove that you would buy at the rate of 42,000,000 pounds per annum after the "E" Plant was completed and put into operation. This proviso was covered by our letter to you of September 29, 1933.

"We are agreeable to interpreting this proviso so as to make the price of 34 cents a pound, referred to in said proviso, effective from and after June 1, 1934 and until December 31, 1934, even though we may not operate the additional unit for the manufacture of tetraethyl lead, which is now being completed; provided that between June 1, 1934, and December 31, 1934, you shall purchase tetraethyl lead from us at not less than the rate of 42,000,000 pounds per annum.

"Adjustment to said price of 34 cents per pound in such event shall be made in the form of a rebate of one cent per pound to be credited on the December bill if, as of the end of the year 1934, the above conditions have been fulfilled.

"If this is satisfactory will you please sign and return the attached copy of this letter."

And the exhibit indicates it is signed and accepted by Ethyl Gasoline Corporation by Mr. Mittnacht.

Du Pont Exhibit No. 124 is another letter from E. G. Robinson to Mr. Mittnacht, secretary and treasurer of the

Ethyl Gasoline Corporation, dated November 2, 1934, and it states:

"I am enclosing herewith our regular monthly invoice covering sales to you of tetraethyl lead, dyes, service, etc., for the month of October.

[fol. 3872] "You will note that on this invoice tetraethyl lead has been billed at 32 cents instead of 34 cents, which is the price that has been in effect. We have made this reduction in accordance with our desire to make our prices of lead to you commensurate with costs of manufacture. As a result of the progress which we have made in the manufacturing operation and the quantities which you have taken, it seems to us after consideration of our figures that this reduction is justified and accordingly we have the pleasure of making it effective as of the first of October."

"It is our expectation that we will bill you on the same basis for the months of November and December as well."

The third exhibit, which is du Pont No. 125, is a memorandum, or excerpt from the minutes of a meeting of the Executive Committee of du Pont, November 6, 1935, a year later, and it states:

"Modification of Tetraethyl Lead Contract:

"The following resolution was offered and after discussion was unanimously adopted:

"Resolved, that the informal action heretofore taken by this Committee in authorizing the Organic Chemicals Department to modify the existing contract with Ethyl Gasoline Corporation by reducing the price of Tetraethyl Lead to 28 cents a pound, effective as of October 1, 1935, be and it is hereby approved, ratified and confirmed."

[fol. 3873] It is indicated, your Honor, in Government Trial Exhibit No. 757 that the price prior to the reduction was 32 cents. The reduction therefore, was a reduction of four cents a pound.

By Mr. Horsky:

Q. Was that a practice, Mr. Harrington, which was unique with respect to Ethyl? Was this a common practice in du Pont?

A. I think you would say it was a common practice.

Q. It happened with other customers?

A. It happened at other times on other products, and under other circumstances.

Q. Let me turn to the third of the contracts which is in this Government's Trial Exhibit No. 706, which is the blending contract. First, in a word, what is blending?

A. Blending is that process by which tetraethyl lead is mixed with halowax oil and coloring matter and ethylene dibromide and so forth. So it is a product which is finally used by the oil companies to put into their gasoline which is to be marketed.

Q. This contract, I believe, is the first contract under which du Pont did blend for Ethyl. Can you explain why du Pont undertook that at this time?

A. At the Surgeon General's January meeting, it was recommended that the blending be done adjacent to the point of manufacture. This, in effect, you see, would cut out two exposures, two breaks in the continuous system, therefore to make the thing as continuous as possible, they suggested that the thing be carried up clear through blending rather than have the tetraethyl lead be shipped to [fol. 3874] somebody else to be blended.

Q. Was Ethyl agreeable to that procedure?

A. Yes.

Q. Let me call your attention to the first page of Government's Trial Exhibit No. 706, the second whereas clause:

"WHEREAS, the Seller is willing to undertake the carrying out of this operation, being particularly fitted to do it in view of the fact that the Surgeon General's recommendation is that this operation, known as blending, be conducted at a point adjacent to the point of manufacture of Tetraethyl Lead."

Is that what you are referring to?

A. Yes.

Q. Did you continue to blend for Ethyl Gasoline Corporation up through 1937?

A. Yes.

Q. Do you recall whether the prices remained the same as they are in this contract?

A. No, after the amortization of the cost of the first plant—after it was amortized, then the price was reduced, and generally speaking, after we amortized a plant, and the amortization was completed, we tried to put the plant in operation on as near a cost basis as we could.

Q. Do you recall, Mr. Harrington, whether in this case likewise there were occasions when during the time of a contract du Pont would reduce the price?

A. Yes.

Mr. Horsky: I should like to offer, your Honor, in that connection two documents, General Motors Exhibit 277 and du Pont Exhibit No. 126, which is an exchange of correspondence between Mr. Cesare Protto, assistant general manager of the Organic Chemicals Department, and Mr. Webb, president of the Ethyl Gasoline Corporation. [fol. 3875] (Said documents so offered and received in evidence were marked General Motors Exhibit No. 277 and du Pont Exhibit No. 126.)

Mr. Horsky: The first letter, dated July 2nd, 1936 states:

"We are now charging you 19c a 100 pounds, with an additional drumming charge of 50c a drum, for blending tetraethyl lead for your account under our agreement of May 29, 1930 and the supplement thereto of December 22, 1933.

"We are happy to say that we find, on the basis of present operations in the blending plant and the handling of more than six million pounds of fluid per month, that we are able to operate more economically and, therefore, believe that we are justified in making a reduction in this charge from 19c as above mentioned to 11c a 100 pounds for bulk material, the drum charge of 50c being unchanged. All other conditions of our agreement will, of course, remain in effect.

"As pointed out above, the new rate is based on present operating conditions and costs and will continue only so long as there is no change making a higher charge necessary.

"If this is satisfactory to you, we will make the new rate of 11c effective beginning with our bill for July 1936. Probably this letter will be sufficient for your

records without rewriting the present agreement, but if you have any other thought, we shall be glad to draw a new agreement incorporating the change in rate."

[fol. 3876] Du Pont Exhibit No. 126 is the reply from Mr. Webb stating:

"We very much appreciate the contents of your letter of the 2nd instant regarding the reduction of the blending charge from 19c a hundred pounds to 11c for bulk material, the drum charge of 50c being unchanged."

By Mr. Horsky:

Q. Now, Mr. Harrington, are you familiar with the events leading up to the change in the relationship between du Pont and Ethyl Corporation which occurred on January 1, 1938?

A. Yes, I am somewhat familiar with it though I was partially involved with some of the negotiations.

Q. Do you recall when the negotiations began which finally resulted in the agreement of January 1, 1938, the manufacturing service agreement?

A. I think they began as early as 1935.

Q. As you recall it, what was the occasion which started these negotiations? What brought them about?

A. Well, Ethyl Gas got a bit concerned about the fact that their time was running out on their patents and they became conscious of the fact that they had one source of supply for manufacture only, and they felt that they should get themselves in position to have an ability to manufacture tetraethyl lead themselves, before the patents ran out.

Q. And Mr. Webb presented this point of view to du Pont?

A. Yes.

Q. And you say that began about 1935?

A. I think so.

Q. I would like to call your attention, Mr. Harrington, to [fol. 3877] Government's Trial Exhibit No. 785 which is an agreement or memorandum of an agreement between Ethyl Gas and du Pont, dated July 31, 1936, under which, as I read it, du Pont agreed to build some plants at Baton Rouge.

Do you remember the circumstances under which this agreement was arrived at?

A. Generally, yes.

Q. What were they, sir?

A. Well, this was the starting point for them to get themselves into position to ultimately be a manufacturer under their own right, and they asked us to build tetraethyl lead plants for them at Baton Rouge, which we proceeded to do.

Q. Was this agreement part of the general pattern of negotiations which led up to the January 1, 1938 agreement, ultimately?

A. Well, this is part of the process leading up to it, yes.

Q. This agreement provides, reading at the bottom of page 1, paragraph No. 3—

A. Page what?

Q. Page 1, at the bottom, paragraph 3:

“Du Pont shall build on the above site—”

which is described in the previous paragraphs as being in Baton Rouge—

“—one tetraethyl lead plant of the same size and capacity as its existing lead units, together with a blending plant of such size as is fixed by agreement between du Pont and Ethyl, du Pont to assume full responsibility and authority for design and construction of said lead and blending plants, and to have the right to take a sublease from Ethyl, if in its opinion, such a sub-lease is necessary to safeguard its position and responsibility under these conditions.”

[fol. 3878] * Paragraph 4 goes on to say:

“Before the completion of the plant constructed as above, the parties shall endeavor to reach an agreement covering a permanent basis for the ownership and operation of all lead plants, or shall arrive at an agreement covering the permanent relationship between them as regards the operation of the plant in question and extensions thereof.

“In the event of failure to reach any agreement as contemplated in (4) above, then Ethyl shall take over

the plant on January 1, 1938 provided for in this agreement at the cost thereof to du Pont, including interest on the capital invested in the construction and du Pont agrees to assist and license Ethyl for the manufacture of tetraethyl lead therein, subject to the existing contract provisions between Ethyl and du Pont, except only that the date of the license from du Pont to Ethyl and the accompanying disclosure of 'know-how' and technical assistance shall be moved forward as regards this plant or extensions thereof from January 1938, as provided in the existing contract, to the actual completion date of the plant in question."

Was this plant built, Mr. Harrington?

A. Yes, sir.

Q. Now, I call your attention to Government's Exhibit No. 790 which is an agreement dated the 2nd of March, 1937, which is about nine months later.

This agreement provides in the first paragraph:

"WHEREAS, the above-mentioned parties and Standard Oil Development Company, a corporation of Delaware, have entered into a certain Memorandum of Agreement dated July 31, 1936, which agreement [fol. 3879] among other things, provides for the construction by du Pont of a tetraethyl lead plant or unit together with a blending unit, on certain property situate in the Parish of East Baton Rouge, State of Louisiana."

Then skipping down to paragraph No. 1 at the bottom of the page:

"DuPont shall construct a manufacturing unit for the production of tetraethyl lead of approximately the same size and capacity as the present tetraethyl lead unit now undergoing construction by du Pont on certain land owned by Ethyl in the Parish of East Baton Rouge, Louisiana, said unit to be constructed on the same land as the present unit is being constructed by du Pont."

And skipping about five lines:

"In addition thereto du Pont shall further construct a blending unit for the manufacture or production of

compounds containing tetraethyl lead and other ingredients on the aforesaid land of approximately the same size and capacity as the blending unit which is now under construction by du Pont on said land. It is the intent and purpose hereof that du Pont shall double the production capacity of the present tetraethyl lead unit and blending unit, which at the time of the execution of this agreement, are under construction by du Pont by virtue of that certain Memorandum of Agreement dated July 31, 1936; referred to above."

Then over on page 3, paragraph 4:

"Legal title to the tetraethyl lead unit and blending [fol. 3880] unit described herein shall remain vested in du Pont until January 1, 1938, or until such time as the construction work thereon shall have been finally completed, at either of which last said dates or prior thereto, the parties hereto shall endeavor to reach an agreement with respect to the legal ownership and operation thereof as provided for in Paragraph 4 of the aforesaid Memorandum of Agreement dated July 31, 1936. In the event of failure to reach any agreement as set forth in Paragraph 4 of the above said Memorandum of Agreement of July 31, 1936, then legal ownership of said tetraethyl lead unit and blending unit shall be transferred in accordance with Paragraph 5 of the said Memorandum of Agreement of July 31, 1936."

Was this plant also constructed, Mr. Harrington?

A. Yes.

Q. Now, as the record shows, you did agree, on January 1, 1938, that Ethyl Gas take over production of tetraethyl lead with du Pont as the manufacturing agent. Do you recall that agreement?

A. Yes.

Q. Do you recall what the rate of compensation was, speaking generally, that du Pont got as manufacturing agent under that contract?

Mr. Harsha: It seems to me, your Honor, that the contract speaks for itself.

Mr. Horsky: I am just asking in order to get a background for further questioning.

The Court: As a preliminary question, he may answer.

[fol. 3881] By Mr. Horsky:

Q. You may answer.

A. What was your question?

Q. In general, what was the basis of compensation to du Pont under that contract?

A. It was to be paid a percentage of the profit of the Ethyl Gasoline Corporation.

Now, the first 53,000,000 pounds of manufacture, it was to receive, I think, about $33\frac{1}{3}$ per cent of the manufacturing profit, and about 10 per cent of the profit on the balance of the production which was performed at Baton Rouge.

Q. Do you recall why the distinction between the first 53,000,000 pounds and the balance?

A. Well, the first 53,000,000 pounds was that particular portion of the capacity which could be manufactured by du Pont at the Dye Works, and that was considered on one basis, and the balance of it was considered on another basis.

Mr. Harsha: I would like to renew my objection because I don't think this was a preliminary question, as it has been carried out, and furthermore, I think the analysis of the contract has been incorrectly stated by the witness.

Mr. Horsky: I will be glad to debate that question with you.

The Court: Well, of course, he cannot testify to the contents of the contract, but the witness may state what he understood as far as he understood.

Mr. Harris: I think perhaps unwittingly that the witness has misstated the compensation for the first 53,000,000. I believe the contract says 100 per cent of the manufacturing profit.

The Court: Will you point it out, which page that is on? [fol. 3882] Mr. Harris: I have not the copy here, but that is my recollection from yesterday.

Mr. Horsky: Would you show Mr. Harrington the contract to look at? It is Exhibit No. 799, page 22.

By Mr. Horsky:

Q. Mr. Harrington, I call your attention to the top of page 23 to begin with, to the first four or five lines, which says:

"It is understood and agreed that for the purpose of this Article, the term 'gross manufacturing profits' shall be deemed to mean thirty-three and one-third per cent ($33\frac{1}{3}\%$) of gross operating profits of Ethyl—"

Now, I call your attention to the paragraph numbered 1 on page 22 which says that Ethyl Company agrees to pay du Pont Company a sum equal to the following:

"1. 100% of gross manufacturing profits of Ethyl Company from manufacture, purchase and sale of tetraethyl lead and/or mixture thereof with other substances up to an aggregate amount of 53,000,000 pounds of total tetraethyl lead content in the subject calendar year;"

By Mr. Horsky:

Q. Would you tell me, in the light of those two paragraphs which I have read to you, what is your interpretation of the percentage of gross operating profits of Ethyl which du Pont receives for the first 53,000,000 pounds?

A. My interpretation of it is that you get one-third of the profits on the first 53,000,000 pounds.

Q. Let me call your attention to paragraph No. 2 on page 22, which provides that du Pont shall be paid a sum [fol. 3883] equal to 30 percent of gross manufacturing profits of Ethyl Company from manufacture, purchase and sale of tetraethyl lead and/or mixtures thereof with other substances over and above 53,000,000 pounds of total tetraethyl lead content in the subject calendar year.

In looking at that paragraph in connection with the one at the top of page 23, what percentage of the gross operating profits of Ethyl does du Pont get for the amount over 53,000,000 pounds?

A. A third of this figure or 10 per cent.

Q. Is that what you said—

A. That was my understanding of it.

Q. Is that what you said earlier, as you remember it?

Is that what you said earlier in your testimony as to your interpretation of this contract?

A. I say that is my interpretation, that you get 10 per cent.

Q. I am asking you is that what you had testified to earlier when you answered the question before?

A. Yes.

Mr. Harris: I object. I think the record speaks for itself. The witness said manufacturing profit, and not operating profit, and that is where we have the dispute.

The Court: Sustained.

Mr. Horsky: Very well.

I would like to offer, your Honor, in this connection du Pont Exhibit No. 122, which is composed of two pages.

(Said document, so offered and received in evidence was marked du Pont Exhibit No. 122.)

By Mr. Horsky:

Q. On the back page there is a compilation of the number [fol. 3884] of pounds of lead produced pursuant to the manufacturing service agreement from January 1, 1938, through December 1, 1947.

Perhaps I should ask you, Mr. Harrington, this particular exhibit which you were looking at only goes to 1944. Was it subsequently extended?

A. Yes, it was subsequently extended through 1947.

Mr. Horsky: The exhibit shows that the excess over 53,000,000 pounds produced during some of the years reached a figure as high as 188,000,000 pounds.

That reflects itself in terms of the calculation of the profits on the first page, which shows that although in 1938 du Pont's profit as a percentage of Ethyl's profit, both of them before taxes and bonus, was about 24 per cent, and when the production went up to very large figures, it went down to about 14 per cent; that is, when a great deal of the production was at the one-tenth rate rather than at the one-third rate.

By Mr. Horsky:

Q. Now, under this contract, Mr. Harrington, do you recall whether du Pont built any additional plants for Ethyl at Baton Rouge?

A. Yes, I think they did.

Q. During the term, I mean to say, from 1938 through 1947?

A. Right.

Mr. Horsky: I would like to offer, your Honor, General Motors Exhibit No. 278, which is a letter from Mr. Webb, to the du Pont Company, dated February 8, I believe, 1938.

(Said document so offered and received in evidence was marked General Motors Exhibit No. 278.)

[fol. 3885] Mr. Horsky: It is to the attention of Mr. Robinson and Mr. Rykenboer. It says:

"Dear Sirs:

"In line with the conversation of yesterday with Mr. Robinson, we hereby request you to erect, for our account, on our property at Baton Rouge, Louisiana, two additional tetraethyl lead plants of the same size and capacity as those previously erected. The erection and operation of these plants is, of course, fully provided for under the terms of the agreement between our respective companies as of January 1st, 1938.

"We also request you to construct, for our account, a plant for the production of metallic sodium at Baton Rouge, this plant to have a normal operating capacity of twenty million pounds of sodium per year. The increased capacity of this plant from the figure of ten million pounds per year mentioned in the agreement between our companies, will necessitate some supplemental agreement on the matter of guaranteed price and we will appreciate hearing from you on this point. There would appear to be no particular reason why the provision made in the existing contract for the guaranteed price should not apply to the twenty million pound plant as well as to a ten million pound plant, but the matter should be definitely covered."

Did you build a metallic sodium plant for Ethyl at Baton Rouge, Mr. Harrington, in accordance with this request?

A. I didn't hear what you said.

Q. Did du Pont build a metallic sodium plant for Ethyl [fol. 3886] at Baton Rouge in accordance with the request in this letter?

A. Yes.

Q. The letter continues:

"We are desirous of having you construct, for our account, a plant at Baton Rouge for the manufacture of ethyl chloride. There is, of course, no provision in the present contract covering either the construction or operation of such a plant, but we feel that it is to the best interest of both companies that such a plant be built. Apparently the type of plant to be built would be one in which hydrochloric acid is produced by burning hydrogen and chlorine and the ethyl chloride made by your process. The capacity of this plant is perhaps still open to discussion. To be in balance with the lead and sodium plants, it would appear that a unit should be built adequate to consume all of the chlorine produced at the above-mentioned sodium plant. On the other hand, it may not be necessary to invest the entire amount of capital for this project at this time if the capacity is available at existing plants. Certainly, enough ethyl chloride on the most favorable economic basis should be in sight to operate all tetraethyl lead plants by the time they are completed."

May I ask you, Mr. Harrington, whether in accordance with this request you built ethyl chloride plants for Ethyl at Baton Rouge?

A. I understand so.

Q. The letter continues:

"We will appreciate hearing from you on this point both as to the question of the supplemental contract [fol. 3887] covering the erection and operation of ethyl chloride plants and also as to the available capacity of ethyl chloride, time necessary to erect ethyl chloride units of this type, and any other pertinent information."

What has been the situation, Mr. Harrington, since December 31, 1947?

A. Well, that patent ran out at that time, and we discontinued being a service agent of Ethyl Gas. They continued to manufacture and sell their own products, and we, in du Pont, manufactured and offered for sale in competition on the open market, tetraethyl lead.

Mr. Horsky: This is a convenient place to stop, your Honor.

The Court: The courts stands recessed for fifteen minutes.

(A short recess was here taken.)

By Mr. Horsky:

Q. Mr. Harrington, I have one or two more questions relating to the tetraethyl lead before we turn to another topic.

I would like to call your attention and read to you a portion of paragraph 71 of the complaint of this case. It reads as follows:

"In the years following the organization of Ethyl, the du Pont Company and General Motors entered into numerous contracts, agreements and understandings which (a) gave to and insured to du Pont Company the exclusive right——"

[fol. 3888] and I skip a bit.

"to supply exclusively the basic ingredients such as ethyl alcohol, caustic soda, sodium, and other products which entered into the production of tetraethyl lead."

Have you ever heard of an agreement which gave to du Pont the exclusive right to supply the basic ingredients such as mentioned?

A. No.

Q. What was the arrangement, or what was the basis upon which raw materials were acquired for production?

A. We tried to get them at the cheapest place we could.

Q. When you say "we", you mean du Pont?

A. The du Pont Company, yes.

Q. Can you give me a little detail of the specific ingredients? What were the principal ones?

A. Well, we bought lead——

Q. Where did you get it?

A. We bought lead on the open market.

Q. That is pig lead you are speaking of?

A. Pig lead. We bought some ethyl chloride and some ethyl bromide from Dow. We subsequently produced some ethyl bromide and some ethyl chloride ourselves. We bought salt on the market for the manufacture of the ethyl chloride; we bought the sodium bromide on the market for the manufacture of ethyl bromide. We bought the alcohol usually from du Pont, but it was always put in at the regular standard market price. It was convenient for du Pont to get it and supply it because it was from the same plant, no freight involved.

We also did the same thing with sulphuric acid, and for the same general reason, we put it in at the market when we supplied it, and there was involved the location, and no freight, and so forth and so on.

[fol. 3889.] Q. What about sodium?

A. Sodium we bought from R. & H., first, and later from du Pont.

Q. And I think you indicated—

A. We also bought sodium—du Pont bought sodium from Ethyl Gas during the manufacturing and service agreement, and used it in the manufacture of tetraethyl lead.

Q. Did you buy any ethyl chloride from Standard of Louisiana?

A. Yes, we bought quite a lot.

Q. What were the circumstances of that?

A. Well, Ethyl Gas and Standard of Louisiana had had some sort of an arrangement whereby they provided ethylene which is a by-product from the Standard of Louisiana plant, and they put in a plant facility for manufacturing by synthesis from ethylene to make ethyl chloride.

Q. Was this at Baton Rouge?

A. This was at Baton Rouge.

Q. Now, those were the products the raw materials, as I understand it that made tetraethyl lead. Are there some additional raw materials when you come to make ethyl fluid?

A. Yes.

Q. Now, how did you acquire the raw materials that go into that?

A. We had to put in a number of ingredients into tetra-ethyl lead to make the ethyl fluid, but those ingredients were all purchased by the Ethyl Gas and supplied to us in quantities required. Du Pont never bought any of those products.

Q. What were those products?

A. That is bromine, halowax oil and some coloring matter, and some substitutes, and so forth.

Mr. Horsky: Your Honor, before I leave the subject of lead, I would like to offer du Pont Exhibits 120 and 121, letters from Mr. Irene du Pont to Mr. Sloan, dated February [fol. 3890] 5th, 1926, and from Mr. Harrington to Mr. Webb, dated February 25th, 1926.

I will not read from them. I will just offer them at this point.

(Said documents so offered and received in evidence were marked du Ponts Exhibits Nos. 120 and 121.)

Mr. Horsky: I would now like to turn to another topic, the topic of Freon and Kinetic Chemicals.

There is in the record the fact that in 1928 Mr. Midgley discovered that F-12 was a good refrigerant, and that subsequent thereto in 1930, a corporation was organized called the Kinetic Chemicals, Incorporated, and there is evidence of the operations of that company for a considerable period of time thereafter. Let me fix you on that time sequence.

By Mr. Horsky:

Q. In 1928, what was your position in the du Pont Company?

A. I was general manager of the Dyestuffs Department at that time.

Q. What was the name of the Dyestuffs Department later changed to?

A. It became the Organic Chemicals Department.

Q. About when was that change, if you recall?

A. I think it was probably around 1929 or 1930.

Q. What official position, if any, did you have with the Kinetic Chemicals, Inc., the corporation that was organized?

A. After 1929—

Q. No, I am only talking about your position with Kinetie.

A. I was a director of Kinetie, and chairman of the board.

[fol. 3891] Q. From what period in Kinetie history to what period?

A. From the time Kinetie was formed until I retired from the du Pont Company in 1947.

Q. And you were chairman of the Board continuously throughout that period?

A. Yes, sir.

Q. There is considerable evidence in the record, Mr. Harrington, but so that we will be aware of what we are discussing, what were the refrigerants in use at the time that Freon was discovered for household refrigeration?

A. Chiefly sulphur dioxide and methyl chloride. There were a few others, but they were used in very much smaller quantities. These were the ones that were chiefly used in household refrigeration.

Q. That is what I mean. Was Freon and F-12 substantially an improvement over the other refrigerants?

A. Very great improvement.

Q. In what way?

A. Well, it was a very excellent refrigerant, in the first place.

In the second place, it got rid—it had no corrosive character such as sulphur dioxide had, and it did not have any poisoning characteristics such as both sulphur dioxide and methyl chloride had. Methyl chloride had an additional disadvantage from the fact that it was very poisonous, and it had no odor. If you had a leak of methyl chloride in your house, you might be overcome with methyl chloride and never know it was there.

Q. Was Freon flammable?

A. No.

Q. You say it was nontoxic?

A. It is nontoxic and it is not flammable, and it has no odor. The fact is it has a lot of excellent characteristics, which make it a very good refrigerant for household refrigerating machines.

[fol. 3892] Q. Now, let me come to the organization of the corporation which became known as Kinetie Chem-

icals. Can you tell me with whom the idea of having a jointly-owned company, owned partly by du Pont and partly by General Motors originated? Who thought of that idea? Who first proposed it?

A. Mr. John L. Pratt first proposed it to me.

Q. Did you have a meeting with Mr. Pratt about this matter?

A. Yes, he came to see me about it.

Q. Did he tell you why he wanted to have a jointly-owned company?

A. Well, he told me that he wanted to have a company in the chemical industry in which General Motors would have a stake, and yet have the company operated by somebody who would have the responsibility.

Q. Did he tell you why General Motors did not want to make it itself?

A. Well, he felt that the materials which were necessary for the manufacture of F-12 were dangerous, and he had seen what had happened in the tetraethyl lead, and he didn't feel that General Motors had the personnel with the competence to go ahead and pick up that dangerous performance without having some sort of a mishap occur.

Q. Were the materials that go into Freon dangerous in fact?

A. Yes, hydrofluoric acid is dangerous, no question about that.

Q. How about chlorine?

A. Chlorine is dangerous, but the people have learned how to use that over a great many years.

[fol. 3893] Q. Is the manufacture of Freon, speaking generally, a complicated chemical process, or a simple one?

A. No, it is very complex.

Q. Well, at the time that the record indicates the du Pont was invited to go out to Ohio and see the Dayton semi-works, the date was about March, 1930, did you become acquainted with the nature of the operation which Frigidaire had out there at that time?

A. Yes, I heard about it.

Q. What kind of a process was it, in general?

A. Well, it was a batch process which was an adaptation of an idea from the literature that had come from the Belgian chemist who first discovered Freon and its chemical name years before.

Q. We are still talking about F-12, are we not?

A. That's right, F-12.

Q. Which is—

A. Difluoro-dichloro-methane.

Q. Was the Frigidaire process that was in existence at the time that we are speaking of in March or April of 1938, a commercial process, if you know?

A. We didn't think it was.

Q. What did du Pont do about that process after it was first invited out to—I think it was Moraine City, was it not, or Dayton?

A. Well, they asked us to send a man out there to run it for them for a while after we had formed this organization.

Q. Did du Pont assign people to work on the problem?

A. Yes.

Q. Do you know whether they worked out a different [fol. 3894] method than the one that Frigidaire had originally worked up itself?

A. I don't think I understood your question.

Q. I say, do you know whether du Pont ultimately evolved a different method of production than the one Frigidaire had?

A. Yes, we did. It was quite a different process. As soon as we learned of the Frigidaire process, we assigned a group of chemists to the job to make a study and make an analysis of how Freon could be made, preferably by a continuous process, and they, after a very short time of study evolved or came out with a process which ultimately turned out to be practical.

Q. Did du Pont then build a plant for that, for the use of that process which it had evolved?

A. Yes.

Q. Where was that plant ultimately built, do you recall?

A. At the Dye Works.

Q. At Deepwater?

A. Yes.

Mr. Horsky: I would like to offer, in that connection, du Pont Exhibit No. 128.

(Said document so offered and received in evidence was marked du Pont Exhibit No. 128.)

By Mr. Horsky:

Q. Would you tell me, Mr. Harrington, this is a report signed by L. C. Holt of the Jackson Laboratory, to Dr. H. W. Elley.

Who was Mr. Holt, and who was Doctor Elley?

A. Doctor Elley at that time was the director of the Chemical Research Department and the Organic Chemical Department, and Doctor Holt was a chemist in the Jackson Laboratory which was the laboratory in which the re- [fol. 3895] search work was conducted.

Mr. Horsky: I would like to read just the first page of this, your Honor. It is entitled, F-12-Difluoro-Dichloromethane and F-21—Fluorodichloro Methane."

"Attached find memorandum which we have drawn up covering a proposed process for the production of the above two fluorine derivatives.

"This memorandum is being written at the present time in order to place on record, outside of our laboratory notebooks, a clear statement of the work which we are doing. If you compare this memorandum with the application for Part No. 1 of the project for difluorodichloromethane (J-30-60), you will notice that our line of attack has completely changed since we began on this work. The method outlined in the above mentioned preliminary statement before beginning our work was identical with the method now being carried out on a semi-commercial scale by the Frigidaire Corporation. Soon after beginning our work we became aware of the disadvantages in the original Swarts method as now being carried out by the Frigidaire Corporation, and therefore sought to develop another method of attack which would overcome the difficulties incident to the Swarts method. The attached memorandum sets forth in general terms our present ideas of a process for manufacturing the desired fluorine derivatives. We may find that this process must be altered considerably before our experimental work is [fol. 3896] completed, but up to date we have carried out no experiments which indicate that the process in general is other than practical."

By Mr. Horsky:

Q. Did you run into difficulties that this indicates that you might, with the commercial production?

A. We ran into plenty of them.

Q. Did you have a staff working on the problem, of chemists, or engineers?

A. Yes.

Q. Who was in charge of the operation, if you recall?

A. At the Dye Works?

Q. No, at the plant of Frigidaire, which was ~~where~~ the work was originally done, was it not?

A. You mean at the plant located at the Dye Works?

Q. Yes.

A. Bob Laird was.

Q. There was also a plant located at Moraine City, or Dayton, was there not, which Frigidaire was operating?

A. Well, Bob Laird had operated that prior to this time also, and then when we were getting our plant in operation he dropped that work over there and came back to the Dye Works.

As a matter of fact, I think that plant disappeared.

Q. Who was Mr. Laird?

A. He was one of our chemical engineers. He was a graduate from the University of Pennsylvania. He had been in charge of one of the areas at the Dye Works, the one in which indigo and some other products and so forth were manufactured, and we had detached him from that work and assigned him to the work of looking after this job.

Q. Did you have problems of raw materials in connection with the process?

A. Yes, our process required anhydrous hydrofluoric acid, and the process that they had attempted to use out at Frigidaire didn't require anhydrous hydrofluoric acid.

Q. Was there a problem about obtaining anhydrous hydrofluoric acid?

A. There was practically no manufacturer of anhydrous hydrofluoric acid in the country at that time. The only fellow we found that would even make an attempt at it was a little fellow up in eastern Pennsylvania known as the Sterling Products Company which had attempted to

supply us with small quantities of anhydrous hydrofluoric acid, in the early stages of our work.

However, the deliveries were very inaccurate. We couldn't at all depend on them, and in addition, the quality of the product was not up to the specifications we required.

Q. What did you do about that?

A. We had to go into the manufacture of hydrofluoric acid ourselves, and then produce the anhydrous hydrofluoric acid from that.

Q. Did Kinetic develop its own process for making anhydrous hydrofluoric acid?

A. Yes, for making anhydrous, yes.

Q. Who did that, if you recall?

A. That was a process evolved by Jim Lawrence.

Q. Who was he?

A. He was one of our engineers, and I believe he subsequently got a patent on it, if I remember correctly. It was James C. Lawrence.

Q. Is that L-a-w-r-e-n-c-e?

A. Yes.

Q. Was the manufacture of this anhydrous hydrofluoric acid a complicated manufacturing operation?

A. Yes, it was quite complicated and quite difficult. We had a tremendous amount of equipment difficulty. I mean [fol. 3898] that hydrofluoric acid is tremendously corrosive, you know. We had a lot of difficulty that developed in the process of developing that operation.

Mr. Horsky: I would like to offer, your Honor, at this point, du Pont Exhibit No. 129. This is a letter from Mr. Biechler, president and general manager of the Frigidaire Corporation, to Mr. E. G. Robinson, manager of the Dye Division of du Pont, dated May 6, 1930.

(Said document so offered and received in evidence was marked du Pont Exhibit No. 129.)

Mr. Horsky: It reads:

"Dear Mr. Robinson:

"I just wanted to drop you a line to say I was mighty happy to meet you and all of your associates, and I feel we are well on our way to getting the new refriger-

erant matter on a basis where it will be mutually advantageous to all concerned.

"Everybody here in Dayton is happy you will send an operator to take over our present semi-works plant. The sooner the better, and I will be happy to know who the man is and when he will be here, because we will receive him with open arms.

"Yours very truly,

"E. G. Biechler."

[fol. 3899] By Mr. Horsky:

Q. Do you know who the operator was that was sent, Mr. Harrington?

A. Yes, Mr. Bob Laird.

Mr. Horsky: I would like to offer, then, your Honor, du Pont's Exhibit No. 130, which is a holographic letter from Mr. Robert F. Laird to Mr. E. G. Robinson, dated August 3, 1930.

(Said document so offered and received in evidence was marked du Pont's Exhibit No. 130.)

Mr. Horsky: It reads as follows:

"Immediately on my return to Dayton, July 31st, as you suggested I discussed the results of our Wilmington conference in detail with Mr. H. M. Williams."

Do you recall who Mr. H. M. Williams was, Mr. Harrington?

A. He was one of Biechler's assistants.

Q. (Reading):

"After this discussion, Mr. Williams said that he would call a meeting of those concerned and endeavor immediately to let you have a schedule of their present and future demands for both F-12 and F-21.

"It was also decided that we would keep our expenditures down to a minimum, and endeavor to meet this present requirement with the equipment now on hand.

"I feel that I have convinced Mr. Williams that a plant erected here and based on this process, for the [fol. 3900] production of 3000 pounds per day would be highly impractical.

"In fact he made the statement that they were not chemical manufacturers and that he would be glad when du Pont's could satisfy their needs.

"We are proceeding with what equipment we have to get all the information and maximum production possible. This production is now divided between F-12 and F-21. We are producing about fifty pounds of F-21 and thirty pounds of F-12 per day.

"Should any changes in our present procedure arise I will advise you at once."

This was signed by Mr. Robert F. Laid.

I should also like to offer du Pont Exhibit No. 131, which is an annual report of the Kinetic Chemicals, Inc., 4/19/31.

Mr. Harris: To which we object, if the Court please. There are 27 pages of purely technical material. It has nothing to do with the contracts. It tells the story in very involved language of the development of this product.

We don't think the record should be burdened with it.

The Court: What is the materiality of it?

Mr. Horsky: The materiality of this, your Honor, is to show that this was a complicated, difficult manufacturing operation which General Motors was not competent to undertake, and which required the services of an expert chemical company, such as du Pont, to undertake, and [fol. 3901] therefore explains why General Motors should turn to du Pont for the production.

Mr. Harris: I submit, your Honor, it doesn't explain it either to Court or counsel. The witness or an expert could tell the story in a few words. This is absolutely not understandable by a non-technical man.

The Court: I haven't read it. I will have to reserve my ruling. What number is it?

Mr. Horsky: No: 131.

The Court: The annual report?

Mr. Horsky: That is right. I should like to read a small portion of it at this time.

The Court: If it is in support of your argument for its admission, you may read it.

Mr. Horsky: If you prefer not to have me read it until you have ruled—

The Court: I think it would be more practical to reserve my ruling, let me read it, and I will rule on it later.

Mr. Horsky: And have me reserve my reading?

The Court: Yes, do not read it at this time.

Mr. Horsky: All right.

By Mr. Horsky:

Q. Mr. Harrington, I would like to call your attention to Government's Trial Exhibit No. 850. If you will hold [fol. 3902] that for a little while, I have several questions I would like to ask you about that.

This, your Honor is the contract of August 27, 1930, between General Motors Corporation and du Pont, which agrees to the formation of Kinetic Chemicals, Inc.

Did you negotiate that contract, Mr. Harrington?

A. No, I didn't negotiate it. Mr. Robinson really did more of the negotiations than I did.

Q. Did he keep you informed as to the results of his negotiations from time to time?

A. Yes.

Q. Did you have anything to do in your earlier conversations with Mr. Pratt in setting the pattern of these negotiations?

A. I think we did pretty much agree on the set of the pattern which ultimately came into agreement.

Q. I notice, Mr. Harrington, that this contract on page 8 is signed by you as vice president of E. I. du Pont de Nemours and Company:

Can you explain why you should sign this contract when Mr. Robinson negotiated it?

A. I was an officer of the company at that particular time. The Executive Committee had approved the document as it stands, and it was brought to me by the secretary as probably knowing most about the subject as an officer, and so I signed it.

Q. This is for the same reason as Mr. Irenee du Pont signed the early lead one?

A. Exactly.

Q. I should like to refer you to the paragraph third on page 2 of this exhibit. It reads:

"Upon the organization of the New Company du [fol. 3903] Pont, shall subscribe for 51 per cent of the total authorized capital stock and General shall subscribe for 49 per cent thereof, which subscription shall

be payable at par in cash to the New Company from time to time at such times and in such amounts as the Board of Directors of the New Company shall determine."

Did you and Mr. Pratt discuss that issue as to the 51-49 per cent division of the stock?

A. Yes, we did.

Q. Who suggested that du Pont have 51 percent and General Motors have 49 percent?

A. If I recall properly, Mr. Pratt made the suggestion of the 51-49. We had been discussing 50-50, and we both agreed that a fifty-fifty company was nothing. It didn't give the responsibility to either party, and our object was to place the responsibility on the people who seem to be most competent to be able to do this job.

Q. Did you agree with Mr. Pratt that du Pont should have 51 percent?

A. Yes.

Q. For what reason?

A. Because, as I have just said, I thought that du Pont was to have the responsibility and it should have the say with respect to the conduct of the business.

Q. Let me call your attention to paragraph 6, Mr. Harrington, which is at the bottom of page 2. It reads:

"The Board of Directors of the New Company shall be composed of five members to be elected by cumulative voting under a charter provision providing for the same."

[fol. 3904] Does that mean that du Pont had three directors and General Motors two? Is that the way it worked out?

A. That is correct.

Q. What was the reason for that division?

A. The same reason that I expressed a minute ago, to place responsibility for the running of the company on the du Pont Company.

Q. Let me refer you now, Mr. Harrington, to paragraph 7 which is on page 3 of this contract; and to the last portion of that paragraph, beginning with the numeral 2.

"It being further agreed that future chemical developments, (other than those relating to 'said prod-

ucts') originating in the laboratories of General, or its subsidiaries, shall be offered by General to the New Company on such terms as may be mutually agreed upon and if after six months the New Company shall elect not to exploit such new chemical developments, then General shall be free to dispose of the same elsewhere."

Did you and Mr. Pratt discuss that clause?

A. No.

Mr. Horsky: Let me offer du Pont Exhibit No. 132, and ask you about that, Mr. Harrington.

(Said document so offered and received in evidence was marked du Pont Exhibit No. 132.)

Mr. Horsky: This is a memorandum entitled, "Outline of Organization and Operation of Proposed Fluorocarbon [fol. 3905] Products Corporation." It is signed by J. Warren Kinsman. He is listed as Director of Sales, Organic Chemicals. Was that his position at the time?

A. Yes, he was director of intermediate sales for the Organic Chemicals Department at that time.

Q. Would you state what this document is?

A. Well, it is Warren's personal idea of how this organization should be set up.

Q. It is dated May 27, 1930, and it contains, your Honor, a statement of the purpose of the corporation, but first it states what the purpose of the memorandum itself was. It says,

"The following paragraphs embody an outline of the purpose, structure and operation of the proposed new company to be organized by the General Motor Corporation and E. I. du Pont de Nemours and Company for the immediate purpose of manufacturing and marketing certain chemicals useful as refrigerants."

And then, in defining the purpose, Mr. Kinsman states:

"The corporate purpose of the company, as should be set forth in its charter, shall be the manufacture, use and/or sale of halogenated methane or ethane in which at least one hydrogen atom is substituted by a fluorine atom."

Now, Mr. Harrington, will you hold that document, and also look at Government's Trial Exhibit No. 842, which is a letter from Mr. Pratt to Mr. Robinson, dated June 12, 1930, approximately two weeks after the date of Mr. Kins-[fol. 3906] man's memorandum. Would you say whether in your opinion Mr. Pratt's letter is a reply or is a comment or a series of comments on Mr. Kinsman's outline as expressed in du Pont Exhibit 132?

Mr. Harsha: I object to that, your Honor, unless there is some showing that the witness actually received Mr. Kinsman's report. There is nothing in document Government's Exhibit No. 842 to connect it that I can find.

Mr. Horsky: I will withdrew the question, Mr. Harsha. Your Honor, Government's Exhibit No. 842, which is a letter from Mr. Pratt to Mr. Robinson, starts by saying:

"Referring to the proposed organization of the company to be owned by the du Pont Company and General Motors, for the manufacture of certain chemicals to be used as refrigerants, and possibly other chemicals that may be developed in General Motors laboratories. Taking the proposed outline of organization you submitted when I was recently in Wilmington, I will review same in order of the sub-captions:"

Then follows in Government's Exhibit No. 842, there is a comment on each of the captions contained in du Pont Exhibit No. 132. I will ask you, Mr. Harsha, don't you agree to that?

Mr. Harsha: My objection—perhaps I am being hyper-technical.

Mr. Horsky: I withdraw the question.
[fol. 3907] Mr. Harsha: Yes. The point I was referring to, you hadn't laid any foundation indicating Mr. Kinsman's report had gone to Mr. Robinson.

Mr. Horsky: Well, it does not indicate just exactly how it got to Mr. Pratt whether through Mr. Robinson, but otherwise, I am confident that Mr. Pratt's letter is a comment on Mr. Kinsman's proposal.

Mr. Harsha: If you say so, that is good enough for me.

Mr. Horsky: Q. In Mr. Pratt's letter, Mr. Harrington, if you refer to Government Trial Exhibit No. 842, he says,

in commenting on the clause entitled "Purpose" at the bottom of page 1:

"We recognize from the du Pont standpoint the necessity for limiting the kinds of chemicals manufactured in which the new company should embark. From General Motors' standpoint I think it would be satisfactory to have the purpose of the new company to manufacture fluorine with a fluofine atom substituted for at least one hydrogen atom of halogenated methane or ethane. In addition I would like to see the charter provide that the company could manufacture any chemicals that might originate in the laboratories of General Motors Corporation, and exclude any chemicals that originated in the du Pont developments except du Pont developments that flowed out of General Motors developments."

So far as you know, Mr. Harrington, was that the first [fols. 3908-3911] time that clause was proposed?

A. So far as I know, it was.

Q. What was the attitude of the du Pont Company, or your own attitude, if it was different, towards Mr. Pratt's suggestion?

A. I thought it was perfectly all right from my point of view, and from the du Pont's point of view if that was his desire.

Q. Did du Pont following its initial suggestion by Mr. Pratt urge it as a part of the contract, do you recall?

A. No, the du Pont Company did not urge it. It was sort of automatically put in because Mr. Pratt had suggested it.

Q. Do you recall, Mr. Harrington, whether or not it was ever invoked?

A. Yes, it was.

Q. I say whether that paragraph was ever invoked?

A. Yes, I say it was revoked.

Q. Invoked, I thought you misunderstood me.

A. Oh, I thought you said "revoked." I am sorry I misunderstood your question. Was it ever invoked? Was that your question?

Q. Yes.

A. No.

Q. Was it ever canceled?

A. Yes, sir, it was canceled.

Mr. Horsky: I would like to offer, your Honor, the agreement canceling the contract, which is du Pont Exhibit No. 133.

(Said document so offered and received in evidence was marked du Pont Exhibit No. 133.)

[fol. 3912] Mr. Carpenter: If your Honor please, without objection by the Government, I would like to read the following statement which has been submitted to counsel.

At page 3747, the witness, Earle W. Webb, stated, in answer to a question by Mr. Harris:

"... So far as I know, we have not bought five cents worth of anything from du Pont beginning January 1, 1948 to date,"

and

"I never heard of their buying anything from du Pont since December 31, 1947."

The witness, Mr. Webb, following his return home, wrote Mr. Carpenter a letter, calling his attention to the above statement and saying.

"Part of my examination related to the constituents that composed the manufacture of tetraethyl lead, viz., pig lead, ethyl chloride and sodium. When Mr. Harris asked the question, I had in mind in replying that he was referring to those constituents, as I stated we were an integrated company except for pig lead."

Mr. Webb states in his letter that, while returning to New York, he recalled that the Ethyl Corporation has been buying dyes from the du Pont Company, which made his answer incorrect. He then communicated with Vice President Schafer of the Ethyl Corporation and was advised by him that, while the Ethyl Corporation has made no purchases of tetraethyl lead, pig lead, ethyl chloride or sodium [fol. 3913] from du Pont since December 31, 1947, it has purchased from the du Pont Company a small amount of general chemicals and a small amount of dye which it uses to color its ethyl fluid. He requested me to bring this mat-

ter to the attention of the Court to the end that his testimony be corrected accordingly.

The Government agrees that this correction may be made.

Thank you very much.

The Court: With reference to the Government's objection to Defendants' Exhibit DP 131, I have glanced through it, and it contains many pages of highly technical detail, and in view of the witness' testimony, I think the subject matter is pretty well covered now.

Mr. Horsky: Yes.

The Court: And I think there is merit to the objection. The Court sustains the objection.

Mr. Horsky: Perhaps the Government will agree with me that, without further examination, the manufacture of "Freon" is a technical process, and that du Pont did have great difficulty adapting the Dayton process to the commercial manufacture.

Mr. Harris: I think the matter is clearly stated in the document, in the history, and it is very clearly stated, and I was only reading it over this morning and it seems to me it is fully covered, and I would rather not stipulate.

The Court: Are there any additional questions you wish to ask the witness on that subject? If so, you may.

* * * * *

[fol. 3914] Direct Examination (Continued).

By Mr. Horsky:

Q. Mr. Harrington, with reference to the initial period, first developing the reaction by which "Freon" was made at Dayton to the commercial reaction in the plant that was ultimately built by du Pont, can you state whether or not du Pont had difficulty in adapting what it learned from the Frigidaire people to a commercial process?

A. Well, we had to adopt practically their new reaction.

Q. Was it a complicated matter?

A. Yes, it was quite complicated. We used different materials, too.

Q. Was the matter of adapting the laboratory process, and the Dayton semi-works process to a commercial process, more or less difficult than you would expect in the

ordinary course of any development from the laboratory and semi-works to full commercial production?

A. We found that we had a great many difficulties. In fact, it seemed to be unusually difficult to get into a satisfactory, smooth-running, continuous process in the reaction for the manufacture of "Freon".

Mr. Horsky: Your Honor, may I also ask you to look at the proffered exhibit, du Pont No. 131, and I should like, with your Honor's permission, to offer, on page 6 of that document, the text that appears on page 6, and the latter part of the paragraph that appears at the top of page 7 which I think summarizes the factual development.

[fol. 3915] I will not offer the balance of the document.

Will you object to that, Mr. Harris?

Mr. Harris: No objection.

The Court: It is received, that is the top of page 6, ending with the first paragraph on page 7.

Mr. Horsky: I will omit a bit of that because it is too technical, but I will read what I propose to offer.

Mr. Harris: Very well.

Mr. Horsky: This is the text from the annual report, 1931, entitled, "Dichloro Difluoro Methane (F-12)."

It says, at the top of the page I propose to read:

"F-12 Yearly Report .

"The manufacture of F-12 originated from the desire of the Frigidaire Corporation to equip their electrical refrigerating units with a more desirable refrigerant than SO₂. In July, 1928, active research was started on this problem in Dayton, and certain fluorine compounds, difluoro dichloro methane (F-12) and mono fluoro di chloro methane (F-21) were prepared in the laboratory. Samples of these two products were tested for toxicity, inflammability, corrosion, etc., indicated that they far surpassed any known refrigerant and that di chloro difluoro methane, in particular, approximated the properties of the 'ideal' refrigerant. A plant for the manufacture of these products was erected and started operating in Dayton in October, 1929. The process consisted of treating antimony trifluoride with carbon-tetrachloride (or chloroform) in the presence of a catalyst—antimony pentachloride.

[fol. 3916] The reaction was a batch process, carried out in an autoclave. In June, 1930, a still with a packed column, brine condenser and separate receivers was installed and with certain other changes in operating conditions, the Dayton plant was brought up to a capacity of about 5,000 lbs. per month of F-12 or F-21. In a plant of this size and with the process used, the cost of the product was prohibitive—being in the neighborhood of \$2.50 a pound.

“In the early part of 1930, research work was started in the Jackson Laboratory on methods of manufacturing these products and a continuous process developed involving the use of anhydrous hydrofluoric acid.”

Then I will omit the next few sentences, and skip to the middle of the top paragraph on the next page:

“The continuous process developed at the Jackson Laboratory was considered sufficiently satisfactory and so superior to the Dayton process to warrant the erection of a plant at the Dye Works to manufacture F-12. This plant was designed to produce 3,000 lbs. of F-12 per day, though the transposition of the process from a laboratory to a plant scale rendered this figure uncertain. The erection of the plant was started in October, 1930, and completed in December, 1930.”

(Said document so offered and received in evidence was marked du Pont Exhibit No. 131.)

By Mr. Horsky:

Q. Now, Mr. Harrington, at the conclusion of yesterday's session, we had just finished discussing the cancellation [fol. 3917] of Article VII of the General Motors-du Pont Agreement Du Pont Exhibit No. 133 establishing the Kinetic Chemicals by the agreement of June 26, 1945.

I should like to ask you one or two more questions about that.

Do you recall who proposed that that part of Article VII be cancelled or revoked?

A. I think it was General Motors.

Q. What was du Pont's position on that request?

A. Our position was it was perfectly satisfactory with

us to have it cancelled. It called for an agreement on the part of both parties, and so forth. If either party did not want to agree, the thing could not necessarily come to a head.

Q, Very well. Let me turn to another phase of this.

Mr. Horsky: Will you hand Mr. Harrington Government's Trial Exhibit No. 850?

This is the agreement, your Honor, setting up the Kinetic Chemicals.

By Mr. Horsky:

Q. I should like to refer you, Mr. Harrington, to paragraph 8 of that agreement.

A. Paragraph 8?

Q. Yes. It is on page 3, running over onto page 4.

I will just read a few lines, and call your attention to what they are and what I wish to ask you about:

"DuPont agrees with respect only to the production of 'said products' specified in Paragraph First, that it will be responsible for the management of the New Company and will make available to it the benefit of DuPont's experience in and knowledge of the manufacture and sale of chemicals, for which the New Company will pay DuPont a fee of Fifty Thousand Dollars [fol. 3918] (\$50,000) a year for a period of five years beginning January 1, 1931."

Do you recall whether you discussed that provision of this contract with Mr. Pratt in your original conversations with him?

A. No, I did not discuss that at all with Mr. Pratt in my original conversation, no.

Q. Do you know who proposed the \$50,000.00 figure?

A. I don't know how that was proposed. It was set up in the process of developing the program.

Q. Do you remember, Mr. Harrington, whether, after the five year period had expired, which is specified in Government's Trial Exhibit No. 850, Paragraph 8, this management fee was continued?

A. Yes, it was continued, only on slightly different terms. It was felt, that at that particular time, it was far cheaper

to have du Pont do this managerial job than it was to build an expensive overhead organization to conduct the business of Kinetie, and so that a program was set up considerably later whereby a specified fee—I think the fee from then on was \$40,000.00 a year, plus a percentage of participation with respect to the total volume of business—

Q. Do you know whether General Motors objected to this arrangement?

A. No, they didn't object. We discussed the thing in a Board meeting, and there was no substantial objection to it.

Q. Did they object at the outset, if you know, to the officers of the corporation being from du Pont?

A. No, they wanted them from du Pont.

[fol. 3919] Q. Let me refer you to one more paragraph, Mr. Harrington, Paragraph 12. Paragraph 12 is on page 6.

Without reading that paragraph, let me call your attention to the fact that it provides that the new company, which was Kinetie, "shall pay to the Frigidaire Corporation a royalty equal to five per cent of the selling price of the products," which Kinetie was to manufacture and sell.

Did you discuss the royalty figure with Mr. Pratt?

A. I discussed with Mr. Pratt originally the subject of a royalty, but not the amount.

Q. Do you know how this figure of five per cent was fixed?

A. I think it was arrived at in discussion and negotiation with Mr. Pratt and Mr. Robinson.

Q. Have you had experience, Mr. Harrington, with royalties paid either by du Pont or to du Pont in connection with patents on other organic chemicals?

A. I have had experience with respect to royalties paid on chemicals, organic chemicals, particularly in respect to du Pont, yes.

Q. Based on that, is this a high royalty or a low royalty figure in your judgment?

A. I think it is a reasonably good royalty figure. There are many, many royalties much below this, and not very many higher than this.

Q. Let me turn to another topic, Mr. Harrington, and you can return to that exhibit, if you will.

I should ask you one further question: Was this contract you have in your hand approved by the du Pont Finance and Executive Committees?

A. Yes.

Mr. Horsky: I should like to offer in that connection du Pont Exhibit No. 134, which consists of reports—reading them from the inside back toward the front—first, from Mr. Robinson, the general manager of the Dyestuffs [fol. 3920] Department, to the Executive Committee on July 14th, 1930; and then on the first page, the report from the Executive Committee to the Finance Committee on July 17th, 1930.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 134.)

Mr. Horsky: I should like to read only a portion of the report to Mr. Robinson, beginning on page 2:

“The Frigidaire Corporation have developed a series of chemical compounds which are apparently particularly fitted for use as refrigerant liquids. These compounds apparently possess a combination of physical and chemical properties which make them more suitable for this purpose than any of the refrigerants at present in use. The General Motors Corporation have proposed that on account of our experience in the manufacture of chemicals, they and we should form a company to exploit them.”

Now, moving down to another paragraph:

“The plan, as you will observe from the agreement, contemplates the ultimate use of \$2,000,000 of capital by the new company, to which the du Pont Company would subscribe 51%, or \$1,020,000. It is not possible at this time to give any estimates of the profit which it is expected this company will ultimately make, since this will depend primarily upon the cost of manufacture which can be realized and the value of these products as refrigerants which will be developed by the experimental work to be conducted by the Frigidaire

[fol. 3921]. Corporation. It is accordingly planned at this time to issue 10% of the proposed amount of stock involved, or a subscription of \$102,000 from the du Pont Company and a corresponding amount from General Motors. This money will be used to reimburse the du Pont Company for research work which they have already done for the new company, to build a semi-works plant in which the manufacture of the products can be studied, and in which sufficient material can be produced for the experimental program on its application and to provide for the cost of operating the semi-works plant. Before additional money is required by the new company, it is expected that sufficient information will have been developed to enable us to determine whether, before proceeding further with the project, it is justified.

"It might be stated that the General Motors people are all very enthusiastic in their belief that these compounds, on account of their properties, are destined to replace all other refrigerants in domestic refrigerating machines and probably to find other important commercial uses."

By Mr. Horsky:

Q. Now, Mr. Harrington, what was the policy that Kinetic adopted with respect to the sale of F-12 to the competitors of Frigidaire Corporation?

A. It was decided that Kinetic would sell F-12 freely to all comers, so to speak.

Q. Was that policy successfully followed from the outset?

A. Yes.

Q. Did you have any troubles during the early period in obtaining an acceptance of "Freon" as a refrigerant from [fol. 3922] other companies?

A. We ran into very great difficulty about a year or a few months after the "Freon" was offered for sale, in that the code authorities in a number of cities made violent objection, or rather had violent objections brought to them, and the code authorities refused to approve the sale of refrigerating machines which contained "Freon-12" as a refrigerant in such cities as New York City.

Q. What was the argument that the people who opposed the use of "Freon" made against it at that time?

A. Well, they attempted to make an argument that it was dangerous because at that time somebody conducted a test whereby they threw a bit of "Freon" into open flame, and of course "Freon" going or coming in contact with open flames will decompose and you get a certain amount of fluorine and a certain amount of chlorine, and you also, just by happen-stance, get a slight amount of phosgene.

Q. Is phosgene poison?

A. Phosgene is quite poisonous.

Q. What did Kinetic, or Kinetic management do about that problem?

A. Well, Kinetic invited the various representatives of the City authorities and so forth, to come to the dye works and observe a demonstration or several demonstrations that were put on there for the purpose of demonstrating the safety of "Freon," and some of the claims that had been made were not realistic.

In addition to that, the Kinetic Company employed the Underwriters Laboratory here in Chicago to make a very exhaustive test of Freon for the purpose of telling us the full truth about the matter.

We thought we knew the truth, but we wanted somebody who was an authority outside of ourselves to state the [fol. 3923] truth, and they did make an investigation, made the report, and gave "Freon" a complete clean bill of health.

Q. Was "Freon" ultimately adopted as almost a universal refrigerant?

A. Yes.

Q. Do you know whether there are any companies now that manufacture domestic refrigerators that do not use "Freon"?

A. I don't know of any. There may be some, but I don't know of any.

Mr. Horsky: I would like to offer in connection with this last testimony, your Honor, du Pont Exhibits 135 and 136.

(Said documents, so offered and received in evidence, were marked du Pont Exhibits Nos. 135 and 136.)

Mr. Horsky: The first is a brief excerpt from the Monthly Report of the President to the Board of Directors of Kinetic Chemicals for January, 1932.

I should like to read only the third and fourth paragraphs:

"While there have been many inquiries concerning the price and availability of our product no contracts have yet been negotiated. This is due to several conditions which must be corrected before we can expect to place many prospective buyers under contract.

"The first in matter of importance is the code situation. Definite effort on the part of certain manufacturers of refrigerating equipment, using long established refrigerants, is being made to prevent 'Freon' from receiving the special classification to which it is entitled due to its superiority from the standpoint of [fol. 3924] toxicity and flammability. Vigorous attempts have been made to have Freon grouped with refrigerants such as SO₂ and ammonia, both in the A.S.A. and New York City codes. Every effort is being made by Kinetic to secure for 'Freon' the proper recognition by all public authorities interested in the regulation of its use. It is felt that definite progress has been made for the proper protection of 'Freon' in the codes, but, general sales will be adversely affected until this matter is finally settled.

"The Sales Department has contacted many prospective customers during the month and has carried on a vigorous educational campaign which is creating a growing interest in our product."

Du Pont Exhibit No. 136 is a report in 1935 from the sales Manager, Mr. Rhodes, and I think the last paragraph indicates what the fact was at that time. It says:

"The small manufacturers of refrigerating equipment mean very little to us in sales volume. 93.5 per cent of our sales of 'Freon-12' are made to a group of nine companies, 86.7 per cent to six companies, 63.3 per cent to three companies, 50 per cent to two companies, and only 6.5 per cent to forty-one other concerns. However, for the sake of open competition it is a wise policy to sell to the smaller companies."

By Mr. Horský:

Q. Does that represent, Mr. Harrington, the sales policy of Kinetic at that time on F-12?

A. Yes.

Q. Who was Mr. Rhodes, by the way? Was he the sales [fol. 3925] manager?

A. Mr. Rhodes was the sales manager of Kinetic at that time.

Q. Now, Mr. Harrington, the evidence already in this record shows that there was also another "Freon" which was known as "Freon-114"; that it was invented by Mr. Midgley; and that, for a period of a number of years, Kinetic pursued a policy of selling it exclusively to Frigidaire.

Does that correspond with your recollection-

A. That is correct.

Q. Do you remember, Mr. Harrington, whether, with respect to F-12, Mr. Midgley had invented the product or invented the use of the product?

A. He had invented the use of it. He didn't invent the product.

Q. How about F-114?

A. I believe that was a product invention.

Q. When did you first hear of F-114?

A. Oh, I have forgotten—1931, I guess.

Q. In what connection did you hear of it?

A. Oh, in the connection that Frigidaire had developed this particular new product for the purpose of special use in the machine that they were attempting to develop at that time, which was a low-pressure rotary machine.

Q. Without being technical, what is the difference between F-12 and F-114?

A. You mean in terms of refrigerating capacity?

Q. Yes.

A. Not chemically?

Q. That is right.

A. In terms of refrigerating capacity, F-114 is a low-pressure refrigerant, and F-12 is a much higher pressure refrigerant. One has a much higher boiling point than the other.

[fol. 3926] Q. Was F-12 cheaper or more expensive than F-114?

A. It was much cheaper than F-114.

Mr. Horsky: In this connection, your Honor, I would like to offer du Pont Exhibit No. 137, which is a report from Mr. Newill of Frigidaire to Mr. Biechler of Frigidaire, explaining some of the difference between the two products and their use.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 137.)

Mr. Horsky: This is dated May 27, 1931. The first paragraph on page 1 states:

"During our meeting yesterday with Mr. Robinson, at which time you requested him to progress rapidly on the expansion of the plant facilities at Kinetic Chemicals, the possibility of future use of F-114 in commercial equipment, instead of F-12, was mentioned. To be sure that we are making the right move in changing to the new refrigerant, and that we are changing to the correct refrigerant, I have reviewed this question rather fully this afternoon with interested members of the Engineering Department."

Then at the bottom of the page he gives a summary of the conclusions which have been reached:

"It is not logical to assume that either F-12 or F-114 solves all of the problems for the different kinds of machines and the different applications. Therefore, we will probably have to have both of these refrigerants for a considerable time to come. The F-12 is [fol. 3927] particularly suited to slow temperature work because of its low boiling point (-22). It is also especially suited to piston type compressors where stuffing boxes are required. F-114 is less suited to piston type compressors because they cannot continuously and efficiently pump to the low back pressures demanded for low temperature work. The F-114 is not so well suited to compressors having stuffing boxes as F-12, because the former must operate below atmospheric pressure and thus any slight leaks will admit air to the system instead of permitting refrigerant to leak out of the system, thus causing high head

pressures, low operating efficiencies, and overloaded and burnt-out motors.

"Without any doubt, it will be necessary for us to use piston type compressors in our larger sizes for a good many months even though we make very rapid progress toward rotary units for commercial work."

Then skipping down a bit:

"The above considerations demand that F-12 be used in certain of our commercial jobs for the immediate present and for some little time in the future.

"On the other hand, F-114 is especially suited to our rotary type compressors and F-12 is very much unsuited to this type of compressor because of the higher pressure difference with F-12 between the high and low sides."

By Mr. Horsky:

Q. Mr. Harrington, what position did the representatives of Frigidaire or General Motors initially take with [fol. 392B] respect to the sales policy on F-114?

A. Well, when F-114 was first turned over to Kinetic for manufacture and sale, Frigidaire asked that, for the time being,—and I believe that the time we indicated as the time being was one year at that time—this product should be reserved specifically for sale to Frigidaire only in order to give them an opportunity to get their machine in shape to be marketed effectively and efficiently.

Q. What was the position of du Pont directors on Kinetic's Board to that request?

A. We thought that was a very reasonable request, and agreed to it for a year.

Mr. Horsky: Let me offer, your Honor, in that connection du Pont Exhibit No. 138, which is a letter from Mr. Biechler to Mr. Porch, the president of Kinetic Chemicals, August 9, 1932.

(Said document, so offered and received in evidence, was marked Du Pont Exhibit No. 138.)

Mr. Horsky: The fourth paragraph reads:

"Mr. Pratt and we are very much impressed with the possibilities we have in mind in connection with

the use of F-114 in the machine you saw when you were here and, Mr. Pratt has expressed the wish, with which we concur, that F-114 be held exclusively for us for an indefinite period. We would very much appreciate it if you would handle the matter on this basis and this can be more definitely discussed at the next Kinetic Board meeting."

Then I should also like to call your Honor's attention to Government Trial Exhibit No. 878, which is a report from [fol. 3929] Mr. Porch to Mr. Robinson, dated March 6, 1944, being a history of the development of F-114.

On page 2, in the middle of the page, I should like to read the third and fourth paragraphs:

"Kinetic began the production of 'Freon-12' January 1, 1931. At the fourth meeting of its Board, held November 13, 1931, the Kinetic management was advised of Frigidaire's possible interest in 'Freon-114'. An appropriation for the construction of a plant for the manufacture of 'Freon-114' was approved at a special meeting of the Board, held on September 29, 1932. It was at this meeting that the sales policy governing the future distribution of this new refrigerant was first discussed. This discussion resulted in the passage of the following resolution:

"RESOLVED: That it is the sense of this Board that any commercial distribution or any effort toward commercial distribution of 'Freon-114' should be confined to the Frigidaire Corporation for the time being."

By Mr. Horsky:

Q. Mr. Harrington, was that policy changed after the year that you mentioned?

A. A number of years later it was, yes.

Q. How long did the exclusive policy continue, if you can recall approximately?

A. About seven or eight years, I think.

Q. We will come to the date later; perhaps that isn't important.

What was the attitude of the members of the Board of Directors representing du Pont with respect to this policy?

A. Well, the attitude of the members of the Board of [fol. 3930] Directors representing du Pont was that it was perfectly reasonable for Frigidaire to make the request for the first year or two years, and maybe even as much as three years, but we thought, after that, that Kinetic should be entitled to sell the product to anybody; that it should not be restricted to Frigidaire any longer.

Q. Did the du Pont directors on Kinetic make efforts to get a change in this policy?

A. Yes. We had a substantial argument every year, but General Motors was so urgent and so insistent on the thing that, rather than create the ruction that would be involved if we just completely overrode them, the du Pont directors went along and allowed the product, F-114, to be exclusive for quite a long time.

Q. Do you recall, Mr. Harrington, an incident in 1938, when Sears Roebuck made a particular attempt to obtain F-114?

A. Yes.

Q. Did the Board of Directors of Kinetic have any particular consideration given to the problem at that time?

A. Well, after Sears Roebuck's criticism on account of our refusal to sell them F-114, we had a special meeting of the Board of Directors of Kinetic in New York, at which the subject was discussed with General Motors people.

Q. Do you recall who attended that meeting from General Motors?

A. Well, the regular Board of Directors of Kinetic, and also Mr. John Thomas Smith and Mr. C. E. Wilson, and Mr. Pratt and Mr. Biechler, and, well, there were several General Motors people besides that.

Q. What was the result of that meeting?

A. The result of that meeting, General Motors was more vehement than ever that we should reserve the thing to them for a further length of time, and in order to keep [fol. 3931] peace in the family, we agreed.

Q. Was this policy, Mr. Harrington, applied strictly enough so that du Pont also was unable to get F-114?

A. I didn't hear your question.

Q. Was du Pont itself able to get F-114 during this period?

A. No. Du Pont was refused samples of F-114, the same as everybody else.

Mr. Horsky: I should like to offer, your Honor, in that connection, du Pont Exhibit No. 139, which is a letter from Mr. Rhodes to Mr. A. A. Levine of the du Pont Company, the R. & H. Chemicals Department, Niagara Falls, New York, dated November 24, 1933.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 139.)

Mr. Horsky: It reads:

“Referring to your letter of November 20th addressed to the Jackson Laboratory for the attention of Dr. L. C. Holt, would advise that we can ship you 10 pounds of F-12 at any time, but through a ruling of the Board of Directors of our company there is not any F-114 available for sale or transfer. Consequently, we shall not be able to supply you with even a small amount of F-114.”

I should also like to offer at this time du Pont Exhibit No. 140, which is an agreement dated the 18th day of September, 1939, between Kinetic Chemicals and General Motors, which transfers back to General Motors Corporation the exclusive use rights under the patent covering F-114.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 140.)

[fol. 3932] By Mr. Horsky:

Q. Do you recall this agreement, Mr. Harrington?

A. Yes, I do.

Mr. Horsky: In that connection, your Honor, I would like to refer you to Government Trial Exhibit No. 863, which is dated May 8, 1939, and is a memorandum from John Thomas Smith to Mr. Breech, both of General Motors. It begins:

“Referring to the question as to the best way to protect Frigidaire in its exclusive use of F-114, I make no doubt that the surest procedure would be that suggested by you. If Kinetic Chemical Company were to sub-license Frigidaire exclusively, that would be an end of the matter. The decision as to its future use, viz., whether to give it to its competitor, and if so,

upon what terms, would rest solely with Frigidaire. This sort of protection would not be accorded by any resolution that the Board of Directors of the Kinetie Company might adopt."

Then the last paragraph on page 2:

"Therefore, it seems to me that if Kinetie is willing to let Frigidaire be the exclusive user, it would really lose nothing, and gain much in relief against possible future pressure if it granted to Frigidaire an exclusive license converting a moral commitment into a legal relation."

By Mr. Horsky:

Q. Does that state, Mr. Harrington, as you recall it, the [fols. 3933-3934] purpose of the execution of the agreement of September 18, 1939?

A. Yes.

Q. Did the du Pont members of the Board of Directors oppose the making of that agreement?

A. We rather welcomed the idea of granting back this particular right to Frigidaire because we wanted to be relieved of the responsibility involved.

Q. Mr. Harrington, during the period that the policy was in effect, World War II came along. Was the policy modified at that time?

A. I didn't hear that.

Q. I say, during the time that this exclusive policy was in effect, World War II came along?

A. Yes.

Q. Did that result in any change in the policy?

A. Yes. There were a lot of special requests for substantial quantities of F-114 for large machines, and those requests were, on special consideration, granted by Frigidaire and the material was delivered.

Q. Was it also possible during that period to obtain this material for experimental use?

A. Yes—oh, wait a minute. During this particular period in which it was still granted by license, even for experimental use, it had to be permitted by Frigidaire.

Mr. Horsky: I should like to call your attention, your Honor, to Government Trial Exhibit No. 868, and offer in connection with that du Pont Exhibit No. 141.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 141.)

[fol. 3935] By Mr. Horsky:

Q. Mr. Harrington, I would like to show you Government's Trial Exhibit No. 880, which is an agreement between General Motors and Kinetic which cancels the agreement of September 18th, 1939; which is du Pont Exhibit No. 140, which you have just seen.

By reference to the date of this agreement, which is May 18, 1944, can you tell when the exclusive policy on F-114 was finally terminated?

A. It was terminated immediately when the rights on F-114 were granted to Kinetic Company.

Mr. Horsky: In connection with that termination, your Honor, there are several exhibits I would like to offer and read to you briefly.

Du Pont Exhibit No. 142 is dated October 20, 1943. It is from Mr. Porch to Mr. E. F. Johnson of General Motors.

(Said document so offered and received in evidence was marked du Pont Exhibit No. 142.)

Mr. Horsky: It says:

"In our meeting in Mr. Harrington's office on September 2nd the above subject was discussed. It was suggested that inquiry should be made to determine [fols. 3936-3939] whether Frigidaire is now in a position to release its control of this refrigerant so that Kinetic could offer it to the general trade without further restriction.

"We are interested to know whether you have had an opportunity to look into this matter, and, if so, would appreciate your advising us at your convenience of its present status."

By Mr. Horsky:

Q. Mr. Harrington, had the du Pont directors continued, up to this time, 1943, to urge General Motors to change the policy?

A. I did not get your question, Mr. Horsky.

Q. Had the du Pont directors on the Kinetic Board, continued, up to 1943, to urge on General Motors a change in this policy?

A. Well, as long as this F-114 was still in the hands of Frigidaire with its special privileges and so forth, we did not have anything to do with it. It was only after it was granted back to Kinetic, that we had any concern about it.

As I said a minute ago, we started to sell it immediately. I recall I am wrong in that respect. We made arrangements with Frigidaire to take it back, but Frigidaire made some special request with respect to a special charge which we objected to, and after that thing was ironed out, in the course of a reasonably short time, then F-114 was sold by Kinetic.

Q. I think we will clear that up with these next exhibits.

Mr. Horsky: I would like next to offer, your Honor, du Pont Exhibit No. 143, which is a letter from Mr. Godfrey to Mr. Porch, about four or five months following the previous letter from Mr. Porch to Mr. Johnson.

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[fol. 3940] In du Pont Exhibit No. 144, dated April 22, 1944 which I should like to offer, Mr. Johnson writes to Mr. Porch of Kinetic Chemicals, transmitting the contract which ultimately became Government's Trial Exhibit No. 880, canceling the agreement.

(Said document so offered and received in evidence was marked du Pont Exhibit No. 144.)

Q. Does that refresh your recollection, Mr. Harrington, that sales did begin immediately upon the execution of the contract of May 18, 1944?

A. I say, the sales didn't begin until after we had settled this question of additional royalties, or additional fee that they had asked.

Q. But that occurred, as you will see in these documents, prior to May 18, 1944?

A. Yes, that's right.

Q. Do you recall, Mr. Harrington, that there came a time

when du Pont purchased from General Motors its 49 per cent interest in Kinetic?

A. Yes.

Q. You continued on the Board of Kinetic until when?

A. 1947, when I retired on August 1, 1947.

Q. Did you retire at the age of 65?

A. I retired at age 65.

[fol. 3941] Q. And you are now going on 71?

A. I am 70 now, approaching too close to 71.

Q. Do you recall generally the circumstances of the purchase by du Pont of General Motors' interest in Kinetic?

A. Well, I know there was a long negotiation about the subject.

Q. Do you know whether the purchase was approved by the Department of Justice?

A. I was told so.

Mr. Horsky: I would like to offer in that connection, your Honor, du Pont Exhibit No. 145, which is a letter to the du Pont Company, dated November 30, 1949, and signed by Mr. Herbert A. Bergson, Assistant Attorney General, and it is to the attention of Mr. Haskell—

By Mr. Horsky:

Q. Who was Mr. Haskell?

A. Mr. Haskell was the head of our Legal Department at that time.

(Said document so offered and received in evidence was marked du Pont Exhibit No. 145.)

Mr. Horsky: (Reading):

“Dear Sirs:

“I refer to letters from Mr. Horsky of October 13 and November 8, 1949, in which he advised me that an agreement has been reached whereby the du Pont Company is prepared to purchase all of the stock now held by General Motors Corporation in Kinetic Chemicals, Inc., and transmitted to me the minutes of the du Pont Executive Committee setting forth the details of the proposed transaction.

[fol. 3942] “This is to advise you that the Department does not object to the consummation of the agree-

ment referred to. In the event that du Pont thus acquires the stock now held by General Motors, the Department will waive that part of its prayer for relief relating to Kinetic (Paragraph 17, page 69 of the Complaint) in United States v. E. I. du Pont de Nemours & Co., Civil Action No. 49 C 1071 (N.D. Ill.).

"It should be clearly understood, however, that the Department, if it deems it desirable and advisable to do so, is free to introduce evidence at the trial of the above action relative to history and background and all other aspects of joint operation and control by du Pont and General Motors of Kinetic."

By Mr. Horsky:

Q. In connection with F-114, Mr. Harrington, I forgot to ask you one question: Do you recall after it became available, whether Sears Roebuck purchased F-114 from Kinetic?

A. No, we offered it to them, but then they didn't want it.

Q. Coming back to this letter which I should perhaps have finished earlier, do you know, Mr. Harrington, whether the purchase by du Pont of General Motors' interest in Kinetic was made in reliance upon the approval by the Department of Justice as presented in this letter?

A. I was so told.

Q. Have you secured, at my request, some financial data with respect to the operations of Kinetic over the years?

A. Yes.

Q. Do you have them with you?

A. Yes.

Q. Will you refer to them, Mr. Harrington, and tell me [fol. 3943] what the purchase price for the 49 percent interest paid by du Pont to General Motors was?

A. Now, your question is what was the purchase price?

Q. That is correct.

A. \$10,034,648.25.

Q. Read it a little slowly.

A. \$10,034,648.25.

Q. Can you tell me, Mr. Harrington, the total amount of the royalties received by General Motors during the life of Kinetic?

A. \$3,892,853.26.

Q. Can you tell me the total management fee received by du Pont during the life of Kinetic?

A. The total management fee, \$1,101,366.40.

Q. Can you tell me the total amount of dividends received by General Motors during the life time of the commitment?

A. \$6,746,810.00.

Q. Can you tell me what General Motors' total investment was in Kinetic?

A. They subscribed capital stock to the extent of \$980,000.00. They made a contribution to surplus to the extent of \$1,127,000.00, or a total of \$2,107,000.00.

Mr. Horsky: That is all from that exhibit.

The Court: The court stands recessed for fifteen minutes.

(Whereupon a fifteen minute recess was taken, after which the hearing was resumed as follows:)

By Mr. Horsky:

Q. Mr. Harrington, before I pass to another topic, I would like to ask you a series of questions about paragraph 64 of the amended complaint. It states:

"Du Pont Company, following its acquisition of control over General Motors in or about 1917, not only extended its operations into the manufacture of paints and varnishes and related products, but also began expanding into other areas in the chemical field. In connection with this expansion, du Pont Company entered into an agreement with General Motors to the effect that the latter would refrain from the manufacture of chemicals, including paints and varnishes and similar products, leaving this field, as between the two companies, exclusively to du Pont Company."

Have you ever heard of an agreement or understanding, or arrangement between the du Pont Company and General Motors to the effect that General Motors would refrain from the manufacture of chemicals?

A. No.

Q. It continues:

"It was further agreed between the two companies that when General Motors made discoveries in the chemical field, it would inform du Pont Company of the findings and grant to du Pont Company exclusive development, production, and exploitation rights with respect to such discoveries."

Have you ever heard of an agreement to that effect between the two companies?

A. No, sir.

Q. Or an arrangement or understanding?

A. No.

Q. And I continue to read:

"It was also understood that if any of said General Motors' discoveries were usable in General Motors operations, du Pont Company would, after their development, make them available to General Motors [fol. 3945] Company for use upon an exclusive or preferential basis."

Have you ever heard of any agreement to that effect between the two companies?

A. No.

Q. (Reading):.

"It was further understood that if du Pont Company made discoveries in the chemical field which might be of use in the production of automobiles, du Pont Company would promptly inform General Motors of its findings and grant to General Motors preferential rights with respect to such discoveries, and General Motors would aid in the experimental work on such discoveries."

Have you ever heard of an agreement to that effect?

A. No.

Q. Now, let me turn to another topic, Mr. Harrington, relating to safety glass. Were you a director of a corporation called du Pont Viscoloid Company?

A. Yes, I used to be.

Q. About what period did your term of office as director of that company cover?

A. I think it was about from the latter part of 1929 until the time that the corporation was dissolved which I think was about 1934.

Q. What was Viscoloid which the du Pont Viscoloid Company made?

A. It was the manufacture of a plastic known by either the name of "Pyralin" or Viscoloid. I have forgotten the other name.

Q. Celluloid?

A. "Pyralin", which is a form of celluloid. Chemically it is a mixture of nitrocellulose and camphor.

[fol. 3946] Q. Who owned the stock in the Viscoloid Company?

A. I think the du Pont Company owned the stock 100 per cent.

Q. When you became a director of Viscoloid in 1929, Mr. Harrington, did the Viscoloid Company own stock in a company called the Duplate Corporation?

A. Yes, sir.

Q. Do you recall how long it owned that stock?

A. I think it had owned it a couple of years before I became a director.

Q. How much of the stock of Duplate did Viscoloid own, what proportion?

A. I think it owned 50 per cent of the stock, 50 per cent of the outstanding stock.

Q. Who owned the other 50 per cent, do you know?

A. The Pittsburgh Plate Glass.

Q. What was the business of the Duplate Corporation?

A. Making safety glass.

Q. What was the safety glass that Duplate made at that time?

A. Safety glass is a product where two layers of plate glass are cemented together by an interlayer of pyralin in which there is a bit of cement material so as to make the glass hold together, and then if it is hit, it won't shatter like ordinary glass does.

Q. What was the reason why Pittsburgh Plate Glass and du Pont should form a corporation jointly of this sort?

Mr. Harris: If your Honor please, we object to further testimony or questions along this line. There has been no proof offered on safety glass in this case.

The Court: Is there any reference in the complaint to it?

Mr. Harris: I think not.

[fol. 3947] Mr. Horsky: This is an affirmative defense matter, your Honor. This goes to disprove the allegations of the complaint in an affirmative fashion.

Mr. Harris: We understand the purpose of the proof is similar to that which was meant in General Motors and in the Emich case, bringing in examples in the General Motors of non-coercion, and they could do it indefinitely, simply showing that they didn't do certain things, none of which is charged in the complaint, and of which no proof was offered.

The Court: If it is not in the complaint, what issue would this tend to support?

Mr. Horsky: This tends to refute the charge, your Honor, that du Pont exercised control over General Motors. The tendency of this proof, which I will elicit through this witness, and the exhibits I propose to offer, is that in this case du Pont had a product which it was manufacturing jointly with Pittsburgh Plate Glass which was of peculiar utility in the automobile industry.

It attempted to sell it to General Motors, it had some success, and thereafter General Motors decided to make the product for itself and Duplate's success failed, and Duplate Corporation ultimately was sold out by du Pont.

It seems to me to be highly relevant to the issue as to whether du Pont did in fact control General Motors' purchasing policies, and it directly controverts the charge of the Government that it did so.

I think it is clearly relevant in this case as an affirmative defense on the part of du Pont.

Mr. Harris: Your Honor will see that it is entirely a collateral issue. We could go indefinitely into the reasons [fol. 3948] why this or that was not done. If we win this case, we will have to win it on the proof that we have offered or that has come out on cross-examination.

The Court: The Court of Appeals held in Emich General Motors that a matter very similar to this should have been received in evidence, if you recall.

Mr. Harris: That was because, if your Honor please, the other side had gone into it. If your Honor remembers, in the Emich case they balanced it,—I think it was 10 and 10;

10 dealers who said they had certain good treatment, and 10 dealers who said they had been coerced.

But in General Motors, the Court held that the principle was it should not be admitted, and it was only suggested in the Emich case because the Court had allowed a certain amount of proof to go in. That isn't the case here.

The Court: No, I think this is an analogous situation; and the Court will overrule the objection.

Mr. Horsky: Thank you.

By Mr. Horsky:

Q. Can you state, Mr. Harrington, why it was, if you know, that du Pont and Pittsburgh Plate Glass would jointly get together to form a corporation of this sort?

A. The Pittsburgh Plate Glass supplied the glass, and Viscoloid supplied the inner layer. Duplate put the stuff together and attempted to sell the product as Duplate.

Q. What was the principal market for safety glass at this time?

A. What was that?

Q. What was the principal market for safety glass?

A. Oh, in the automobile business.

Q. Did the Board of Directors of Viscoloid from time [fol. 3949] to time receive reports concerning the operations of Duplate Corporation?

A. Yes.

Q. Do you recall whether Duplate attempted to sell safety glass to General Motors?

A. Yes, I understood they did.

Q. Do you know what success they had, speaking generally?

A. Well, I think in the first couple of years of their existence they sold quite substantial quantities to General Motors, and then it had gradually dwindled down and down until it finally got down to almost nothing.

Mr. Horsky: I would like to offer, your Honor, in further support of this, a series of exhibits, du Pont Exhibits Nos. 160 through 171. I think they are in your Honor's book.

These are on safety glass.

Mr. Harris: To which we make the same objection, your Honor.

The Court: Objection is overruled.

(Said documents, so offered and received in evidence, were marked du Pont Exhibits Nos. 160 through 171, respectively.)

Mr. Horsky: The first one, du Pont Exhibit No. 160, is an excerpt from the monthly report of the president of Viscoloid for February, 1928.

It reads:

"We have contacted and are working with the safety glass committee of General Motors in an effort to help them develop the safety glass proposition."

[fol. 3950] About six months later, in September, 1928, du Pont Exhibit No. 161 contains a further report of the president of du Pont Viscoloid Company.

It reads, under the title "Thin Plate Glass Industry":

"The ultimate acceptance of safety glass will mean a revolution in the plate glass industry in order to provide the necessary quantity of a thin plate glass to replace the heavy plate glass now in use. That the plate glass industry believes such a revolution is to be expected is clearly indicated by the tremendous construction program which is now being carried out by the glass manufacturers.

"The Pittsburgh Plate Glass Company had adopted a construction program requiring the expenditure of \$14,000,000. for the purpose of remodeling plants and machinery for the production of thin plate glass (1/8").

"Libby Owens Sheet Glass Co., according to recent newspaper announcement, is spending \$5,000,000 for similar improvements.

"The National Plate Glass Co. is reported to be proceeding with the construction of a new plant for the production of 24,000,000 feet per year of the thin plate:

"In a recent article in the Wall Street Journal of September 19, 1928, all of the above projects are mentioned and the statement was made that the Ford Plate Glass Co., the Standard Plate Glass Co. and the American Window Glass Co. are all engaged upon extensive construction programs because of the new safety glass development."

[fol. 3951] The following month, in 'du Pont Exhibit No. 162, the president reported further:

"Considerable operating time was lost during the month of October because of lack of orders. This condition, however, is considered to be merely temporary as there are excellent prospects for largely increased sales as soon as the new models are brought out by the different automobile manufacturers. Both Hudson and Studebaker will adopt DUPLATE windshields; in addition Chrysler will continue to use DUPLATE windshields in Model 75, with the possibility of adopting DUPLATE throughout this model. Chrysler will also continue using DUPLATE throughout on Model 80; Cadillac and LaSalle will continue to use safety glass throughout, although we understand that their requirements will be divided between DUPLATE and the product of other manufacturers."

In du Pont Exhibit No. 163, Mr. Brokaw reports to the Board of Directors of Viscoloid in February, 1929, which is about five months later, and gives a summary of the situation at that time.

He says:

"To date Safety Glass has been adopted by the following manufacturers."

The General Motors cars on that list, your Honor, are the first two—Buick, in which it is noted that it is optional on the windshield only, and on all windows, and Cadillac-LaSalle, where it is used in all windows.

Going down the list, you will see that there are several cars which had adopted safety glass throughout under the [fol. 3952] "All windows" column with an X—Lincoln, Pierce-Arrow, Rolls Royce, the deluxe Ford, and there are several others which have it optional.

At the bottom of the page it is reported:

"We are also advised by General Motors officials that if safety glass is a success it probably will eventually be adopted for use in the Chevrolet in competition with Ford, provided it would not increase the cost over \$15 or \$20 per car."

On the second page it says:

"General Motors is installing experimental equipment for compositing safety glass which they hope will take care of Cadillac and LaSalle demands. When they have determined the best method of compositing they also expect to build a regular compositing plant at their subsidiary, the National Plate Glass plant at Ottawa.

"National Plate Glass Co., Ottawa, Illinois, are building a plant for the production of 22,000,000 sq. ft. per year at a cost of three to four million dollars and expect to double this capacity after the compositing plant is completed."

Two months later, in April, 1929, the monthly report of the president, which is du Pont Exhibit No. 164, gives the forecast for next month's sales.

It states:

"The forecast which had been made for May indicated sales of 200,000 square feet. It is now evident [fol. 3953] that this forecast will not be met as several of the automobile manufacturers have reduced output. Furthermore, a larger proportion of the safety glass for Cadillac and LaSalle is being produced by the Fisher Body Company. The progress which is being made by the General Motors and its subsidiaries in laminating safety glass indicates that the best prospects for the immediate future for Duplate sales depend upon manufacturers other than General Motors.

"There is nothing to indicate that either Buick or Chevrolet will adopt safety glass in the immediate future."

Two months later the president reports again, in May, 1929, du Pont Exhibit No. 165. Under "Sales Comments" he states:

"Shipments during the month of May were approximately 138,000 square feet. The volume of sales for May was disappointing and considerably less than the estimate made in last report. Solicitation has been carried on and quotations made with practically all of

the automobile and body manufacturers. There is a general interest but apparently each is waiting for the other to adopt safety glass. The increased cost of Duplate over plate glass per car is the greatest obstacle for making sales and it is quite natural that manufacturers hesitate to increase the cost of their car unless compelled to do so by competition.

"The adoption of laminated glass by any of the leading manufacturers in medium priced cars would do much to stimulate the demand. The manufacturers [fol. 3954] solicited state that there is a very small consumer demand and that they receive very few inquiries or comments from their agents with respect to laminated glass. When the general public begin to appreciate the safety glass factor of laminated glass and insist upon having their automobile equipped with it, the automobile manufacturers will be more receptive to our solicitation."

Then on page 2 he says:

"While Fisher Body is laminating glass in their own plant for Cadillac and LaSalle, Duplate is supplying part of their requirements. Fisher is making the Viking windshield."

"General Motors are not yet ready to consider the use of laminated glass in their cheaper models although they are of the opinion they will be forced to do so later on. They are going to postpone the adoption as long as possible in order to save the money that would be added to the cost of the car through the adoption of Duplate."

Then in September, 1929, about four months later, the president again reports in du Pont Exhibit No. 166:

"Sales prospects in automobile industry appear encouraging altho there are no important developments with General Motors units."

"Marmon previously reported as having adopted a combination of sheet and plate glass lamination, have reconsidered and will use Duplate throughout for their best models."

[fol. 3955] I don't think I need to read the last paragraph.

The next one is du Pont Exhibit No. 167, excerpt of minutes of meeting of Board of Directors of the DuPlate Corporation held on October 24, 1929, reports on sales prospects, six to twelve months:

"Mr. Pitcher inquired as to the prospects for increased sales within the next period of six to twelve months.

"It was stated that there was practically no prospect for Buick until July 1930, except for optional equipment, which is now running on a fairly large scale, but is being supplied principally by the Fisher plant. Chevrolet was also reported as being out of the question until 1930."

The following exhibit, du Pont No. 168, is an excerpt from the monthly report of the president of the du Pont Viscoloid Company for the month of December, 1929, and it, too, summarizes the situation for all of the cars as of that time.

The General Motors cars are listed on the first page under the title, under the description, "General Motors," and it is reported that, as to Buick it is optional, extra expense, made by Duplate or Fisher Body Corporation; as to Cadillac, and LaSalle, it is safety glass throughout, made by Duplate or Fisher Body Corporation, while the other cars, with the exception of the Viking "8" have no safety glass, but Viking has a windshield safety glass made by Fisher Body or Johnston Glass Company.

With respect to the other cars, however, you will notice there are a number of automobiles with which Duplate had successfully negotiated and was supplying:

[fol. 3956] The Chrysler, the Chrysler "80"; the Hudson, the Nash "8" and others that you see, going down through that list of companies, which Duplate was supplying with glass.

The annual report for 1929 for Viscoloid, which is du Pont Exhibit No. 169, summarizes the situation, and it says:

"Competition became more severe during the year. In the latter part of 1929 the new factory of Libbey-

Owens Glass Company came into production with strong sales efforts being made to secure business. Fisher Body Company increased production with the result that they were able to supply practically all safety glass required for Cadillac and LaSalle, and with a consequent loss of this business which had previously been supplied by Duplate."

In March, 1930, another excerpt of minutes of meeting of Board of Directors of the Duplate Corporation du Pont

Exhibit No. 170, reports under the title "Sales Prospects":

"Mr. Higgins states that there are no indications of any important changes in the sales situation. General Motors are contemplating no change in their policy. Cadillac and LaSalle production is very small and can easily be provided from the Fisher plant. Mr. Higgins thinks that Ford has for the present given up all idea of using Safety Glass throughout. Mr. Higgins thinks that Hudson may be the next to adopt Safety Glass throughout and quotes the President of the Hudson Company as saying that, in his opinion, Safety Glass should be required by law in all cabs and public conveyances."

[fol. 3957] Du Pont Exhibit No. 171, the last of these exhibits is an excerpt of addendum to monthly report of the President of the du Pont Viscoloid Company for August, 1930, which is another six months later and reports as to the status of the business with the various accounts.

Under the title "General Motors" it states:

"At the present time are producing in Fisher Plant No. 1 laminated plate that is used in such models as Cadillac and LaSalle, and for optional equipment in other makes. Until they decide to use laminated glass more generally the Fisher plant will undoubtedly be able to supply their entire requirements."

Then under the other companies, as you will see, Duplate was having some success. Pierce Arrow was continuing to use Duplate; Studebaker was using Duplate to the extent of 90 per cent of their requirements, and the Libbey-Owens-Ford Company will obtain about 10 per cent of their busi-

ness. The Marmon and Peerless continued to use Duplate exclusively in the top models, and Hudson was using it in the windshields, and Reo decided to use Duplate, and will give them the bulk of its laminated glass business.

Packard and Graham-Paige were using Libbey-Owens-Ford laminated glass exclusively.

Franklin was using Safetee and Indestructo and are now considering other companies, and Duplate hope to get some of their business.

Under "Bus business" it is noted:

"We lost the Checker Cab contract on account of our competitors quoting lower prices than ourselves. Are [fol. 3958] supplying some of the smaller cab and bus manufacturers with limited quantities."

By Mr. Horsky:

Q. What happened, Mr. Harrington, to du Pont's interest in Duplate Corporation? Perhaps I should say to Viscoloid's interest in Duplate Corporation?

A. We finally sold our interest in it.

Q. To whom?

A. When I say "our," I mean Viscoloid sold its interest in Duplate.

Q. To whom?

A. Pittsburgh Plate Glass.

Q. Let me show you du Pont Trial Exhibit No. 172, which is a copy of an agreement entered into between du Pont Viscoloid and Pittsburgh Plate Glass dated the 29th day of January, 1931. This copy, Mr. Harrington, is an unexecuted copy.

Do you know whether this contract was actually entered into?

A. Yes, the sale was made, and this contract was the basis of the sale.

I call your attention to the first paragraph, on the first page, the first "Whereas" clause. It says:

"Whereas each of the parties hereto is the owner of five thousand (5,000) shares (par value \$100 per share) of the issued capital stock of Duplate Corporation, a corporation of the State of Delaware, engaged

in the manufacture and sale of non-splintering glass in the United States and elsewhere."

And may I interrupt to ask you, do you recall whether the Viscoloid paid par value for its shares?

A. That is my understanding.

Q. Then it continues:

[fol. 3959] "Whereas, Duplate Corporation is indebted to Viscoloid Company on open account in the total sum of Five Hundred Fifty Thousand Dollars, (\$550,000) for moneys heretofore advanced from time to time by Viscoloid Company to Duplate Corporation for use as working capital."

Then I would like to call your attention to the paragraph, Roman numeral I, on page 2, which reads:

"Glass Company hereby agrees to purchase and acquire from Viscoloid Company and Viscoloid Company hereby agrees to sell, assign and transfer to Glass Company, for the total sum of Two Hundred Twenty-five Thousand Dollars (\$225,000) to be paid in cash or its equivalent, all of Viscoloid Company's right, title and interest in and to its claim of Five Hundred Fifty Thousand Dollars (\$550,000) against Duplate Corporation; and it is further agreed that in consideration of the purchase by Glass Company of the claim aforesaid, Viscoloid Company will assign, transfer and deliver to Glass Company, without any further or additional consideration, all of the certificates, properly endorsed, for the five thousand (5,000) shares of the capital stock of Duplate Corporation now owned by Viscoloid Company."

Mr. Harrington, what does that mean in terms of whether du Pont made or lost money out of this venture?

A. Well, it means that du Pont—I think du Pont lost about \$825,000.00.

Q. I understand du Pont put in \$500,000.00 for stock?

A. That is right.

[fols. 3960-3969] Q. And advanced \$550,000.00 to the company during its lifetime?

A. Yes, sir.

Q. And got \$225,000.00 back on the sale?

A. Yes.

Q. Do you know whether the Duplate Company ever made any money in any year it was in operation?

A. As I recall, it did not.

Mr. Horsky: I would like to offer du Pont Exhibit No. 173, which is an advice of action dated February 3, 1931, which is an approval by the Finance Committee of du Pont of the sale of the du Pont Viscoloid interest in the Duplate Corporation to the Pittsburgh Plate Glass Company.

(Said document so offered and received in evidence was marked du Pont Exhibit No. 173.)

Mr. Horsky: Finally, I offer du Pont Exhibit No. 174, which is a compilation of the sales by Duplate to General Motors Corporation and subsidiary companies from 1928 through 1931 inclusive.

You will notice that in 1928, on page 1 of the exhibit, looking at the first column, or, rather, the third column on the chart, the total dollar sales to General Motors was \$1,155,000.00. In 1929, the sales went up to \$1,343,000.00.

In 1930, they shrank to \$67,000.00. And in 1931, for the entire year, they went down to \$36,000.00.

[fols. 3970-3976]

Cross-examination.

By Mr. Harsha:

Mr. Harrington, why was this 1922 contract "a continuing one"?

A. I don't know that we would have been willing to provide our manpower, the high class manpower, and go ahead with the efforts involved in the starting of the production of tetraethyl lead, if we weren't going to have an indication and opportunity to see and become a part of the future.

Q. Was it your understanding of that contract that at the expiration of that contract, it would be replaced by another contract in which—

A. If we could make satisfactory terms, we would have the opportunity. It wasn't a foregone conclusion.

Q. Would you have, in effect, the right of first refusal?

A. Well, I don't know whether it went that far or not, but we certainly had an opportunity to bid and make ourselves useful in the manufacture of tetraethyl lead for the future.

Q. Is it fair to say that the understanding of the contracting parties was that the du Pont Company was to be the sole supplier of this product?

A. Not in terms of the sole supplier. It would have the opportunity at that time to go ahead and be a provider of this business, but there was nothing in there at that time that said we would be a sole supplier.

Q. That provision was later incorporated in some of the contracts, was it not, with the Ethyl Company later on?

A. I think it was, in connection with the manufacturing and service agreement, yes.

[fol. 3977] By Mr. Harsha:

Q. You recall seeing this letter written by Mr. Sloan, do you not?

A. I don't know whether I have seen this particular letter. I have seen some letters from Mr. Sloan.

Q. Wasn't it your understanding Mr. Sloan was opposed to the Standard Oil undertaking the manufacture of tetraethyl lead?

A. Mr. Sloan was definitely very skeptical to have the Standard Oil of New Jersey start to manufacture tetraethyl lead because he doubted their ability to do the job successfully.

Q. Wasn't that attitude found in the next quoted paragraph of that report, in which he states:

"If it develops that these people have a process which, due to the nature of same, it should be cheaper from the standpoint of manufacture, I personally would much rather obtain a license from them, pay for it and get the du Pont Company to use it in reducing the cost [fols. 3978-3980] than I would to deal with the Standard Oil Company as a manufacturer."

Mr. Horsky: I object. It calls for a conclusion, and an interpretation of the report.

Mr. Harsha: I will withdraw it then.

By Mr. Harsha:

Q. Did you agree with this opinion of Mr. Sloan?

A. Do you mean did I agree with Sloan that he should be skeptical of their ability to manufacture? Is that the question you asked me?

Q. No, I am asking you with regard to this paragraph of the letter by Mr. Sloan in which he states he would personally much rather obtain a license from Standard Oil and pay for it, and then get the du Pont Company to use it rather than have the Standard Oil embark on the manufacture.

A. I think Mr. Sloan exhibited rare judgment when he arrived at that particular conclusion.

Q. You agree with that?

A. I certainly do, because I think he had more faith in our ability to do the job successfully than he had in Standard Oil of New Jersey.

[fol. 3981] Q. Now, according to this report, the Bayway plant was only about a tenth of the size of the ethyl chloride plant which the du Pont Company had in operation; that is correct, isn't it?

A. Contemplated to be built, and put in operation?

Q. Yes, and a plant of that size, the Bayway plant, could not seriously compete with the du Pont plant, could it?

A. It couldn't in terms of economics, if it stayed in that ratio, but their idea obviously was to try to demonstrate their process so they wouldn't stay on that ratio.

Q. Did they ever so state to you? Did the Standard Oil people ever so state to you?

A. No, I wouldn't say that they so stated, but Mr. Howard indicated to me on a visit to Wilmington that he was looking forward to the foundation company, as he called it at that time, running another plant which they were contemplating putting down at that same time.

Q. Is this true that the Bayway plant, according to your

understanding of the industrial setup at that time, was to [fols. 3982-3983] operate for only six months?

A. That was my idea. It was only an experimental effort for an experimental period.

Q. And then after that, Standard Oil would, if it proved successful at Bayway, build a 500 gallon plant?

A. There was nothing ever decided to that effect.

Q. Did they ever indicate that to you?

A. Mr. Howard indicated a desire for the foundation company to be considered as the operator of that other 500 gallon plant.

Q. Now, the foundation company, that was——

A. Well, it turned out to be the Ethyl Corporation.

Q. Was that Ethyl?

A. Yes. But at the time he talked to me, he called it the foundation company.

* * * * *

[fols. 3984-3985] Q. Read the whole paragraph and perhaps that will refresh your recollection, beginning with; "In seeking to appraise——".

A. You have got to remember that Wescott was writing this particular report and putting his own interpretation on a lot of things and putting his own ideas into a lot of things, too. Don't forget that.

I don't know whether that entire extract is entirely accurate or not. I know we had eight losses of lives, in total, in the bromide and chloride processes.

I think Standard of New Jersey had either five or six. I don't recall exactly what the figure was, and I think that General Motors had two or three.

Maybe it was just two. Now, whether that comes out to the figure that you are expressing here, and Wescott is trying to express, I am not even trying to make an observation on, but I do want to make the observation that this whole report was written by Wescott from Wescott's point of view, and not necessarily from the point of view of reality.

Q. Point of view of what?

A. Point of view of reality. He put a lot of his own interpretations on it.

* * * * *

[fol. 3986] Q. Well, when you say a later date, how much later are you referring to?

A. Well, I made a contract for this five year standby position, which was made at the same time, in March, 1925-1926, I think it was. Also I was involved in some of the discussions that were brought up at a later date when they couldn't agree and when there was a very acrimonious disagreement between Webb and these people and so forth, and it finally came around to the point where I got involved in it.

Q. One of the major items of controversy was this question of who should own the plant, isn't that correct?

A. That is correct.

Q. And it was Mr. Webb's position that, if they paid for the plant, then they should take title to it, isn't that right?

A. That is right.

Q. And Mr. Irene du Pont, I believe, opposed that position, did he not?

A. Very definitely.

Q. And I presume that that was your position, also?

A. Very definitely. We could not have a plant of this kind right in the middle of our dye works, where the title was in the other fellow, and whose method of operations may be wholly inconsistent with our situation, and he would also be dependent upon us for his service facilities, and all that kind of thing. Labor relations and all prob-[fols. 3987-3992] lems of that character would become totally impossible.

* * * * *

[fols. 3993-3999] I would like to show you in that connection Government's Exhibit No. 667, which is an extract from the minutes of the Finance Committee of GM for August, 1924. It deals with the formation of Ethyl, and you will note that the composition of that committee includes on it Mr. P. S. du Pont, Mr. Irene du Pont, and Mr. John J. Raskob as chairman.

Did any of those men to your knowledge ever pass the word down to you regarding the formation of Ethyl?

A. I think the first information we had about the formation of Ethyl was when Mr. Donaldson Brown wrote an official letter announcing it.

Q. In answer to my question, did any of those men ever inform you?

A. I don't recall that they informed me before the time it was officially announced by Mr. Brown. The fact is I feel pretty sure on that because I was tremendously surprised when it happened.

By Mr. Harsha:

[fols. 4000-4002] Q. Now, did this discussion that you had with Mr. Pratt also involve a discussion as to the proposed split of ownership concerning this new company that was later known as Kinetic?

A. Yes, it did cover that.

Q. You did discuss that matter as to the mutual stock ownership by du Pont and General Motors?

A. We discussed the affair first on a suggestion of a 50-50 basis, then we discussed the fact that a 50-50 basis lacked control, and it was not very good, and after further discussion, he suggested we divide it 51-49.

Q. Now, was this all in the same meeting? Did this all take place in the same meeting?

A. This particular part of the discussion took place in the same meeting, yes.

[fol. 4003] Q. F-114 was an invention conceived by Mr. Midgley of General Motors, is that right?

A. That is correct.

Q. And it was covered by a product patent?

A. I believe so.

Q. Did it come to Kinetic pursuant to this provision in the contract that all future chemical developments of General Motors were to be first offered to this new company?

A. No, sir.

Mr. Horsky: I object. That asks for a conclusion, your Honor.

Mr. Harsha: I think we are entitled to find out about the operation of this agreement.

The Court: What is the basis of the objection?

Mr. Horsky: It calls for an interpretation of the contract as to why Frigidaire should assign this patent to Kinetie.

Mr. Harsha: I am trying to find out the operation.

The Court: Read the question, please.

(Question read.)

The Court: That involves a conclusion.

Mr. Horsky: It asks for an interpretation as to the legal basis on which Kinetie got this patent. It asks the witness to interpret this contract.

The Court: Overruled.

Mr. Harsha: You may answer.

[fol. 4004] By the Witness:

A. No, sir. It came as a part of the original field in which the Kinetie Chemical Company was set up.

Q. It was within the field?

A. It was one of those products where you had the replacement of the fluorine in the hydrocarbon.

Q. Now, the F-114 ultimately proved to be commercially more valuable than F-12, didn't it?

A. Oh, gracious, no.

Q. It did not?

A. No; no.

Q. Even in later years?

A. No.

Q. What is the product used today in household refrigerators, if you know?

A. F-12.

Q. F-12, still?

A. Yes. The fact is (I think you will find that most of the uses that General Motors used to use F-114 for are now substituted by F-12.

Q. Did you personally consider that this provision contained in Article VII of the Kinetie contract, requiring General Motors to turn over all future chemical developments which it originated in its own laboratories to Kinetie, of value to the du Pont Company?

A. I didn't think it had particular value to the du Pont Company. I think it might possibly have some value to the Kinetie Company, and of course, through that, it would

have value to du Pont. But we didn't look upon it with very much concern at that particular time because it was a suggestion that we were perfectly willing to accept.

Q. In your direct examination you read off a lot of figures, I think, that you had in your pocket concerning the financial returns on Kinetic.

I failed to hear you read anything, and I wonder whether you have the figures on the dividends which the du Pont [fol. 4005] Company received from the operation of Kinetic.

A. Yes, I have them. May I use this?

Q. Certainly.

A. Sure, I have the figures.

Q. Would you give us those figures?

A. I thought we read—no, we didn't read that because the du Pont Company would receive the equivalent of 51 versus the 49 shown on here for General Motors.

Q. Can you give me roughly what that amount was?

A. Well, General Motors' dividend, the dividend received by General Motors from Kinetic, was \$6,746,810.

That would be 49 per cent of the total, and just a slightly larger figure than that would be 51 per cent—I mean, multiply that by two, this would be the 49 per cent and the other portion would be the 51 per cent.

So that du Pont would receive, oh, slightly more than this \$6,746,000.

Q. It would be somewhere around \$7,000,000, would that be roughly accurate?

A. I suppose it would be probably \$6,800,000 and something. That is just a mathematical guess. I haven't tried to do the job in my head.

Q. Now, you touched on the restrictions concerning the use of F-114 which had been imposed by Frigidaire during the early '30's. Do you recall your testimony on that?

A. I don't think I heard you.

Q. I said you testified on direct concerning the restrictions which Frigidaire imposed on Kinetic regarding the free use of F-114. They wouldn't allow Kinetic to sell it to other persons, as I recall your direct?

A. That is correct.

Q. Would you show Mr. Harrington Government's Exhibit No. 857, please.

This is a letter written September 26, 1938, I believe—either 1938 or 1936,—to Mr. E. R. Breech of General Motors, and it is signed by E. G. Robinson, president of Kinetic Chemicals.

I draw your attention to the third paragraph of that letter, which states that:

“We have from time to time agreed in our Board meetings that we would restrict the sale of ‘F-114’ to Frigidaire, but this was also agreed upon as a temporary expedient with the reservation that it would be discussed again at a later date. This was also based upon Frigidaire’s representation, which we at the time accepted, that the financial interests of both stockholders would be better served by such restriction in that du Pont, as well as General Motors, would make more money through their share in the profits Kinetic would obtain from a broader sale of the refrigerant—”

I am sorry, I left out a phrase.

“—would make more money through their share in Frigidaire’s increased profits than they would make in their share of the profits Kinetic would obtain from a broader sale of the refrigerant.”

Isn’t this one of the reasons, Mr. Harrington, why du Pont was willing to let Frigidaire have the exclusive use?

A. Mr. Harsha, I never agreed to that. I always thought that the products of Kinetic should be sold freely.

On the other hand, General Motors asked for restrictions with respect to F-114 in the early stages for the purpose of allowing them to get themselves in commercial position. The thing went on for quite some time, and that particular statement was made, but I never agreed with it.

[fols. 4007-4011]. Q. Did Mr. Robinson express that opinion to you from time to time?

A. I don’t think Mr. Robinson agreed with it either, though it was stated as he states there. But I don’t think he agreed with it anymore than I did.

[fols. 4012-4013] Mr. Horsky: I have one question, Mr. Harrington.

Redirect Examination.

By Mr. Horsky:

Q. Will you tell me, if you know, whether there are any present manufacturers of domestic refrigerators that use F-114 today?

A. Mr. Horsky, I cannot tell you that surely and exactly. I think we still manufacture a small quantity of it, and if we do, we must sell it, and presumably somebody must use it.

Q. Could it be possible that that would be replacements in the old Frigidaires?

A. It is possible.

Mr. Horsky: Thank you. That is all.

Mr. Harsha: Nothing further, your Honor.

[fol. 4014]. The Court: Are counsel ready to proceed?

Mr. Horsky: Yes, sir.

Your Honor, in checking the transcript last evening, I discovered that inadvertently I failed to offer formally in evidence exhibits marked for identification as du Pont Exhibit No. 127, a letter from Mr. Robinson to Mr. Mittenacht dated September 25, 1933, and du Pont Exhibit No. 172, agreement between du Pont Viscoloid and Pittsburgh Plate Glass, dated January 29, 1931.

I need make no further reference to them, but I would like to offer them formally now.

(Said documents, so offered and received in evidence, were marked du Pont Exhibits Nos. 127 and 172.)

JOHN R. SABINA, called as a witness on behalf of the defendants, having been first duly sworn, was examined and testified as follows:

Mr. Horsky: Your Honor, before I proceed with the examination, it might be appropriate to state simply that this witness and the next witness will be directed toward the situation which has existed since January 1, 1948, between the du Pont Company and—

The Court: Subsequent to 1948 or including 1948?

Mr. Horsky: Subsequent to January 1, 1948.

The Court: That includes 1948?

Mr. Horsky: That is right, but since the termination of the manufacturing and service agreement that we discussed [fol. 4015] yesterday when the patents expired and those companies became free to proceed.

The Court: That is tetraethyl lead?

Mr. Horsky: That is right.

Direct Examination.

By Mr. Horsky:

Q. Mr. Sabina, will you state your full name and place of residence for the reporter?

A. John R. Sabina.

Q. And your residence?

A. Media, Pennsylvania.

The Court: Keep your voice up, please. Speak louder.

The Witness: Media, Pennsylvania.

By Mr. Horsky:

Q. What is your present position with the du Pont Company, Mr. Sabina?

A. Technical Manager of the Petroleum Chemicals Division of the du Pont Company.

Q. How long have you been in that position?

A. Since 1945.

Q. Will you state, Mr. Sabina, when you first joined the du Pont Company?

A. I joined the du Pont Company in 1937.

Q. In what position did you first work for the du Pont Company?

A. I worked first in what was then known as the Petroleum Chemicals Section of the Alcohol Division, and I worked in that group until 1945. For the most part I worked over in the dye works, across from Wilmington, as manager of the Petroleum Chemicals Laboratory.

Q. Did you work as a laboratory man during this entire period, as the manager of the laboratory?

A. For the most part. I worked as manager of the [fol. 4016] laboratory until 1944, when I transferred over to Wilmington to take charge of sales of the petroleum chemicals, that is, other than tetraethyl lead.

Q. Before you joined the du Pont Company, very briefly, Mr. Sabina, will you state where you had been, beginning with, say, your graduation from college.

A. I was graduated from the University of Pennsylvania in electrical engineering, and I worked with Baldwin Locomotive Works for about one year.

I transferred then to Atlantic Refining Company in Philadelphia, and worked in their research and development department. There I did work principally in semi-works operations, both design and operation of equipment, and also in other special type operations, such as de-waxing, et cetera.

Then because of my electrical background, I was asked to develop an electrical means for measuring detonation in internal combustion engines. After I finished that job, I asked to be transferred to the automotive laboratory of Atlantic to work on product application problems, both fuels and lubricants.

I became manager of that laboratory in 1936, and then in 1937 I transferred to du Pont.

Mr. Horsky: Can you hear the witness all right, now?
The Court: Yes.

By Mr. Horsky:

Q. What was the nature of your work when you first joined the Petroleum Chemicals Section of the Alcohol Division of du Pont in 1937? What were you assigned to [fol. 4017] do?

A. Well, my activity was to develop petroleum additives. When I first joined the company, they were engaged in a rather modest effort to do this. It wasn't too well coordinated.

This work, incidentally, was carried on in the Jackson Laboratory, and I was given charge of the development work. We built a laboratory and brought together a group of people, about six technical and about fifteen or sixteen non-technical men, to carry out this work.

Q. In a word, what are the petroleum additives that you speak of? They didn't go into tetraethyl lead at that time, I take it?

A. No.

Q. What are they?

A. The first group of products were the so-called gasoline anti-oxidants—chemicals which were added to gasoline in very minute traces to improve the storage stability of gasoline.

In 1939 we developed a new type of compound, which was known as a metal deactivator, which was designed to offset the damaging effects of minute traces of metal in gasoline. By using the metal deactivator, we were able to make a better end product for less money inasmuch as it replaced some of the gas anti-oxidants.

We also worked on lubricating oil additives, both phosphorus bearing compounds and sulphur bearing compounds.

In other words, we attempted to cover the entire range of petroleum products.

Q. Was du Pont selling these at that time or were you developing these for future sale?

A. They were selling them.

[fol. 4018] Q. Did you have anything to do with the selling activities with respect to these petroleum additives other than tetraethyl lead at this time?

A. In 1944 I was moved over to Wilmington to take charge of selling these products in addition to following the technical development. I might add, however, that the sales were a relatively small part of the over-all job. All those products were on allocation by the Government at that time.

Q. Did that work bring you into contact with oil companies?

A. Yes. I met quite a number of people in the petroleum industry. It also served to give me a broader background on refining problems and the problems of distribution and the marketing of petroleum products in general.

Q. Turning to tetraethyl lead more particularly, do you recall when it was that du Pont announced its decision to become a marketer as well as a manufacturer of tetraethyl lead anti-knock compounds?

A. That was in September of 1946.

Q. Do you know how long before that the decision to make that announcement had been made?

A. Well, it antedated that by a year or two, I imagine.

Q. When you recited your previous history, you took us

up to 1945. What was your assignment in connection with this tetraethyl lead program, your first assignment?

A. My first assignment after appointment to technical manager in 1945 was to—

Q. What was your first assignment in the tetraethyl lead, what position did you occupy?

Let me put it this way, what position did you occupy in connection with the proposed plan to get into the marketing of anti-knock fluid?

A. My position was Technical Manager of the Petroleum Chemicals Division.

[fol. 4019] Q. At that time was the organization of the du Pont Company changed?

A. Yes. As I mentioned earlier, we were working in the Petroleum Chemicals Section of the Alcohol Division, and at that time the Petroleum Chemicals Section was given division status, and it became the Petroleum Chemicals Division, and I was appointed Technical Manager of the Division.

Q. Is that in the Organic Chemicals Department of du Pont?

A. Yes, sir.

Q. Mr. Sabina, at the time that this happened—when was this, approximately? What date are we talking about?

A. This is December, 1945.

Q. At that time what organization did du Pont have for the marketing as distinguished from the manufacturing of anti-knocks?

A. Well, it had practically no organization. We had a well rounded manufacturing organization under Mr. J. L. Stecher, who, incidentally, was made manager of the Petroleum Chemicals Division, but we had no organization for the distribution or sale of tetraethyl lead.

Q. Where is Mr. Stecher now?

A. Mr. Stecher is retired. As far as I know, he is living in Florida.

Q. Were steps taken beginning in December, 1945, to create a distributing organization?

A. Yes, under Mr. Stecher's direction there were groups set up to take care of the various services that would be necessary to market tetraethyl lead.

One of the groups was the operations group, which was

charged with the procurement of tank cars and drums for distribution of tetraethyl lead. Also they set up a group for developing engineering services that might be required in the sale of the product. A safety program was organized and put under the direction of a physician who was experienced in this field. We also took on additional doctors to [fol. 4020] handle the medical examinations which would be necessary in the field.

Q. What was your assignment in this early period?

A. My assignment was to organize a much expanded research and development program, and also to develop the technical services that would be necessary.

Q. Were you familiar with the activities of all these groups that you have mentioned at that time?

A. Yes, sir. We were in very close touch with each other. Actually, the men in charge of these various groups met periodically to discuss their problems and their progress. In fact, you might call these weekly staff meetings.

Q. Did you have any connection with the group that was organized, the actual selling group, the salesmen's organization at that time?

The Witness: Will you repeat the question?

By Mr. Horsky:

Q. I say did you have any connection personally at that time with the group that was set up to do the actual selling, the sales organization?

A. Well, I was very closely associated with them. In fact, that was one of the first jobs I had in the division. It was to find a man to head up this sales organization.

Q. Why were you being assigned to that, if you know?

A. Well, I was practically the only man familiar with the petroleum industry in the group, and inasmuch as I was well acquainted, I was asked to find such a man, a man who was well known in the industry, who had a petroleum background, in fact, who would create a good impression with future customers.

I spent quite some time searching for this man, and I [fol. 4021] think it was in the spring of 1946 that I found Mr. R. E. Miller, who at that time was vice president and director of the Warren Petroleum Corp. I thought he was a good man and I recommended him.

He discussed the situation in Wilmington during the summer of 1946, and finally in September he joined the du Pont Company as sales director.

Q. That is the same date when du Pont announced its decision to go into the marketing? Were the two events related?

A. Yes, these two announcements were made simultaneously, Mr. Miller's appointment and the du Pont entry into the field of tetraethyl lead sales.

Q. Can you tell us a bit more about Mr. Miller, why you thought he was the man w-o would be most satisfactory for this position?

By the way, what title did he have in this group?

A. In our group?

Q. Yes.

A. Director of Sales of the Petroleum Chemicals Division.

Q. Can you tell us what his particular qualifications were that recommended to you, and the du Pont Company?

A. Well, Mr. Miller had been in the petroleum industry quite some time. I believe I learned that he had joined the Marland Oil Company in 1920. The Marland Oil Company later became the Continental Oil Co.

He worked for them in the capacity of personnel manager, and from 1925 to 1926, he managed the Petroleum Safety Council in Tulsa.

He returned to Marland after that, and was there in the capacity of safety director. In fact, I believe he was the first safety director in the petroleum industry in the southwest part of the country.

[fol. 4022] From 1928 to 1934, I think, six years, he was executive secretary of the Natural Gasoline Association, and in that capacity, he was able to meet a lot of the top echelon in the petroleum industry over the entire country.

In 1934, he joined the Hanlon Buchanan Company as Vice President in Charge of Sales. They were engaged in the production and distribution of light hydrocarbons. The Warren Petroleum Corp. took over the Hanlon Buchanan Company, and Mr. Miller joined the du Pont Company from Warren Petroleum.

With that broad background, plus the fact he was pretty familiar with the production, refining and distribution of

petroleum products, also the fact that he enjoyed a very excellent reputation. led me to conclude that Mr. Miller would be a good man for our job.

Q. Where is Mr. Miller now, Mr. Sabina?

A. Mr. Miller continues as sales director of the Petroleum Chemical Division, but he had a rather serious illness last year, and he is only working part time.

Q. Are you familiar, Mr. Sabina, with how Mr. Miller went about organizing his sales force, after he got there?

A. As I mentioned earlier, we had a small group in the Petroleum Chemicals Section. I am going back now to the Alcohol Division, which handled the sale of additives to the petroleum industry.

That small group, however, was entirely inadequate for all we had in mind, so Mr. Miller started out to hire salesmen for the new and expanded effort. He got these men from the petroleum industry, for the most part, and also from other organizations, engineering organizations of one type or another.

[fol. 4023] He also drew some of the people from du Pont who might be familiar with this type of work.

Q. Was there a training course set up by Mr. Miller?

A. Yes, we set up a training course to give these new men a thorough understanding of our problems and of our product.

Mr. Miller selected the sites for the various field offices. These offices were located in strategic areas in the petroleum industry. We also had district laboratories associated with these offices.

Another one of Mr. Miller's jobs was to set forth the terms under which tetraethyl lead would be marketed.

Q. Now, do you recall when it was that you first actually started to solicit business in anti-knocks, when du Pont first started to do it, to get anti-knock business?

A. Well, we were free under the Ethyl patents to start in 1948 but inasmuch as tetraethyl lead was sold on an annual basis, it was necessary for us to start the solicitation earlier than 1948.

Q. Did that make it the latter part of 1947?

A. Yes, we started in the fall of 1947.

Q. What method did you use for the solicitation?

A. Well, after we had our preparation pretty well in hand, we attempted to solicit 100 per cent of the industry to see if we could persuade them to buy our tetraethyl lead.

Q. Were those people that had in 1947 been buying from Ethyl Gasoline Corporation?

A. Yes. Tetraethyl lead had only been sold by the Ethyl Gasoline Corporation before that.

Q. Did you, yourself—I am speaking of you personally—attend any meetings with anyone of the oil companies [fol. 4024] in attempting to persuade them to buy from du Pont rather than Ethyl?

A. Yes, I accompanied Mr. Miller on many of his trips, and I think on some trips, some of the other men. Mr. Fanning, the Sales Manager, went along. In fact, Mr. Miller made an effort to contact all the major companies that he possibly could.

It obviously was impossible in the time available, so he had other people contact the other refineries. I went with Mr. Miller on many of his trips, and I remember going into the Pennsylvania oil group where I was well acquainted and Mr. Miller was not.

Q. Without going into all the details, Mr. Sabina, what in general were the arguments that you used or that you heard Mr. Miller use to persuade the oil companies to purchase from you rather than to continue to purchase from Ethyl?

A. Well, the argument that Mr. Miller used principally was the desirability of having two sources of supply. I also used that argument, as did the other people in our organization. We also thought it was necessary to convince these people that du Pont could supply the tetraethyl lead, and supply the services that go along with the sale of the product.

Q. Were you in a position in the fall of 1947 to make those assurances?

A. From the standpoint of technical services, and our safety program, yes, but with respect to supplying the product, we were somewhat less than 100 per cent certain.

Q. Why was that?

A. In 1947, there was a shortage of pig lead, which car-

ried into 1948. Of course, that would have a direct bearing upon our ability to produce tetraethyl lead.

[fol. 4025] We also heard from our operations group they were having some trouble procuring the necessary tank cars and drums. This job was made a little more difficult by the Ethyl Corporation. They apparently knew about these troubles, and stressed the fact in their advertising, that they had never missed a delivery.

Q. Did you also use any literature, any folders or advertisements to announce du Pont's intentions and abilities in this respect?

A. Yes, we drew up pamphlets and descriptive literature to tell the petroleum industry the diversification we were going into with respect to services, research, safety program and so on.

Q. I show you, Mr. Sabina, two documents marked for identification as du Pont Exhibits Nos. 146 and 147. I would like to ask you whether these are the materials which you distributed at that time in an attempt to sell du Pont anti-knock compound?

A. Yes, sir, I think they are.

Mr. Horsky: I would like to offer them, your Honor. I will not reprint these. I would like to have these accepted as physical exhibits. They are in the folder on your desk under "du Pont."

The Court: Under "du Pont"?

Mr. Horsky: Yes, I think they will be the first two in that book, 146 and 147.

Do you find them?

The Court: I have them.

(Said documents, so offered and received in evidence, [fol. 4026] were marked du Pont Exhibits Nos. 146 and 147.)

Mr. Horsky: As your Honor will see, these are in the nature of advertising, and they state in each case, that beginning on January 1, 1948, du Pont will market tetraethyl lead compounds.

They announce the facilities and capacities of du Pont to do a job for the refineries which the refineries should find satisfactory.

They answer in du Pont Exhibit No. 147 a number of

questions about whether there will be any technical problems about the use of du Pont's compound, what facilities the du Pont will make available to the refiners.

By Mr. Horsky:

Q. This also lists, Mr. Sabina, Wilmington, Chicago, Tulsa, Houston, Los Angeles as the field offices. Are those still the field offices?

A. Yes, sir, except that New York has replaced Wilmington.

Q. Were you, in general, successful in this solicitation? Did you get any business?

A. Oh, yes, we were successful beyond our expectations. In spite of all our drawbacks and our struggles to be ready in time, we had one great advantage, and that was that there was an over-all shortage of tetraethyl lead which led many of the refiners to seek two sources of supply.

Q. Now, let me go back. What, apart from accompanying Mr. Miller on these trips, what were your particular activities, let's say beginning in 1946 and carrying on through to the announcement, the beginning of sale, and so on? What was your specific job?

A. Well, my principal job was to organize a research [fol. 4027] program and a technical service program which we could offer the petroleum industry, we felt that what was absolutely necessary was to be able to convince the refineries that we were trying to back up our product with technical work; we felt that would be a great asset to the sales of tetraethyl lead.

Q. How did you go about this? Not in all detail, but in general, what did you do to do this job?

A. Well, a successful program depends on two things, having the necessary facilities, and second, having the personnel. So we started out by obtaining the personnel that we required, and also building temporary facilities so that we could get into the work quickly.

Now, as our staff grew, we were able to persuade management that they should have better quarters and more facilities, and we finally got the authorization for a laboratory that cost well over a million and a half dollars.

Q. What is that laboratory called?

A. That is the petroleum laboratory and it is located at

Deepwater. I was fortunate in finding an individual to head up that laboratory who was experienced, well known in the field, a man by the name of J. J. Mikita. He came from the Texas Company and is now director of the laboratory.

Q. The Texas Company is an oil company, is that right?

A. Yes.

Q. What does this petroleum laboratory do, again speaking generally? What are your functions?

A. Well, I suppose we could divide the laboratory into four groups: The first group is devoted to the development of fundamental information, in other words, that is information not bearing on any specific product development; [fol. 4028] the second group we might term Applied Research which is the development of new products for our field and for the improvement of existing products; the third group is a group that works with the refiner, helping him to solve some of his problems. In other words, it is a service group; and the fourth group is also a service group which works with the refiners in attempting to improve the application of our customers' product, in combination with ours.

Q. I think that is clear, but can you give us a little bit more detail on each one? In a word, what does the work that deals with the fundamental research do as an illustration?

A. This comes under Dr. Elley of our general research group in the department, the research group in Organic Chemicals Dept.

Q. In the Organic Chemicals Department?

A. In the Organic Chemicals Department. That group devotes its time to the development of basic information. In other words, we are doing work on the chemistry of flame reactions and the possible effect of contaminants that might be found in gasoline on these—such as sulphur and nitrogen compounds.

Q. Do you publish papers?

A. Yes, as soon as we get enough information we feel would be useful to the petroleum industry, we publish the results. In fact, we published quite a large number of papers.

Q. Is this supposed to help du Pont sell tetraethyl fluid? Is that the purpose of it?

A. Well, it is perhaps a little tenuous, but we think it does. What we are trying to do here is to impress on the petroleum industry that we are well developed and well rounded in petroleum technology of the product application type. In other words, we want to create an impression that [fol. 4029] we are preeminent in this field, and we feel by doing that we are expanding our area of acceptance in the petroleum field, and therefore influencing people to buy our tetraethyl lead.

Q. Have you had any evidence that this work is competent work? Have you had any awards for it?

A. Yes, these papers have been very well received, and in fact the various organizations are very anxious to have us present our papers before them. Two of them have received honors. The Society of Automotive Engineers bestowed the Horning Memorial Award on two as the best papers of the year dealing with fuels and lubricants—excuse me. It is just fuels.

Q. Let's turn to the second group, the group you said looked toward improvement in the product.

By way of illustration, what does that group do?

A. That group is working on the development of improved materials or on new products. A good illustration might be their work on du Pont tetraethyl lead fluid which is made up of tetraethyl lead plus a scavenging agent. Now, if we could improve the scavenging agent, we would certainly add to the value of our product, and I think that would have a direct effect on sales. The same applies to tetraethyl lead. If we can improve the efficacy of tetraethyl lead, it would be a big step forward.

Q. Is there much left to do in that field, after 35 years since Mr. Kettering and Midgley discovered it?

A. We think so. We are spending money on it. Since the early days of Mr. Kettering and Midgley, most of the work seems to have been done on the development of the best combination of scavenging agent with tetraethyl lead. In other words, the work has been directed to finding the optimum composition for specific gasolines and engines. [fol. 4030] Now, the tetraethyl lead aspect of it has not received nearly that much attention, and we feel that we

have a good field there for improvement. As I mentioned before, if we could enhance the value of tetraethyl lead to refiners such as by offsetting the effect of sulphur on tetraethyl lead, which is quite harmful, we would be doing ourselves quite a good bit of good, both from a research angle as well as from a sales angle.

Q. Does the work of this group also come out in publications?

A. Yes. In fact, we have tried to publish work from all of our groups. We feel whenever we can bring our work to the attention of the petroleum industry, we stand to gain.

Q. All right. Let's turn to the third group you mentioned, which I think you said worked with the refiners themselves.

What, in a little more detail, do they do?

A. That work, or that group, would, for the most part, work with the refiners in attempting to improve the utilization of tetraethyl lead, perhaps by better blending of the refiners' stocks, or by using certain stocks for the premium gasoline versus the regular gasoline.

In fact, it is a direct service to the refiner groups.

We also do work with refinery gasolines, or customers' gasolines, in determining the road quality of the gasoline by rating them in cars that we have. After all, that is the criterion by which his customer is going to judge our customer's products.

Q. Now, what about this fourth group, the one you say works with the customers of the refiner—customers of your customers, is that correct?

A. That is correct.

[fol. 4031] This group is a group of engineers that will go out and work with the refiners' engineers whenever they run into a problem in the field. If, for example, we are called in to help them with an account that might be having trouble, we will send one of our men who might be qualified in that specific area, that specific field, and work with them.

A good example is that of one of our customers who ran into the loss of an account because of what his customer said was poor fuel. We went and worked with those people, with the refiner's men, and it developed it was not a question of poor fuel as much as a question of poor maintenance.

Well, that customer of ours got his account back again, and that is a very good argument, when we go around and try to persuade them to buy more tetraethyl lead.

Q. You have used the word, and perhaps I also, "customers." Do I understand these services are available only to people who purchase from you?

A. No, none of our services are limited to our customers alone. We feel that by giving service to potential customers, we improve our position.

Q. Where do the field laboratories fit into the picture? This group of five divisions.

A. The field laboratories are relatively small organizations which are on the spot to give spot service to our refiners. We have one located here in Chicago at 1025 South Wabash.

These are units consisting, for the most part, of one or two technical men with three or four or five non-technical men which can give service to the refiners without, of course, going into the extensive background that we can provide at Wilmington.

[fol. 4032] Q. They work, by and large, either with refiners or the customers of the refiners, is that right?

A. That's right.

Q. Can you give me some idea, Mr. Sabina, as to whether this service that you described has expanded, remained the same, or shrunk since 1948, in either dollars spent or number of people employed, or some basis?

A. Perhaps the most convenient way of expressing that is in terms of personnel. When we started out in 1948—actually we started in 1947 to build up the organization—we had quite a small group, that is, a group devoted to petroleum chemicals other than tetraethyl lead.

Since that time we have increased our staff, until now we have approximately 290 to 295 people working in this field of petroleum chemicals, including tetraethyl lead.

As an indication of growth, I might say that in the last three years we have added approximately 90 people to the group.

Q. Let me ask you a question on a little different topic now, sir.

Do you know a substance called iron carbonyl?

A. Yes, sir.

Q. Does that retard knocking in internal combustion engines?

A. Yes, sir.

Q. It is an anti-knock?

A. It is what you might say a good anti-knock.

Q. Has anyone ever discovered how to use it commercially as an anti-knock?

A. Well, the Germans used it commercially on quite a limited scale a number of years ago, but the problem with iron carbonyl is that we don't know how to keep the iron carbonyl from going to iron oxide when it goes through [fol. 4033] the combustion phase. In other words, it turns up as rust in the combustion chamber.

Rust is a good conductor of electricity, so if the iron oxide deposits on the spark plug, you lose ignition. It shorts the engine in a very short time.

Rust is also a good lapping agent. In other words, the use of iron carbonyl leads to a very high rate of engine wear.

Those are problems that, so far as I know, no one has been able to overcome.

Mr. Horsky: In that connection, your Honor, I would like to offer one final exhibit on the iron carbonyl matter, which is a document marked for identification as du Pont Trial Exhibit No. 148, which is a memorandum of March 19, 1925, from Fin Sparre, director, to F. W. Pickard, vice president of du Pont.

(Said document so offered and received in evidence was marked du Pont Exhibit No. 148.)

Mr. Horsky: Rather than have you search for it, I think I can read the first paragraph, which is the only relevant part. This, as I say, is in 1925:

"Mr. Midgley of the Ethyl Gasoline Corporation comes into my office about once a week and each time I ask him how they are getting along with the test relative to the suitability of iron carbonyl. Each time Mr. Midgley tells me that iron carbonyl probably will be all right except that they have been entirely unable to overcome bridging of the spark plugs which necessitates the cleaning of the spark plugs in 400 miles and

[fol. 4034-4045] upwards. Mr. Midgley's opinion is that iron carbonyl will be of no commercial value unless this difficulty can be overcome. He has stated to me repeatedly and as recently as yesterday repeated that to date they have found no way to overcome this difficulty and they have not even any idea as to how it might be done, though they are working on the subject."

By Mr. Horsky:

Q. Mr. Sabina, one or two general questions.

Have you ever known of any agreement or understanding with the Ethyl Gasoline Corporation, or for that matter, with anyone else, which would restrict the ability of the du Pont Company to compete in the sale of anti-knock fluid?

A. No, sir.

Q. Do you know of any agreement that du Pont has with the Ethyl Gasoline Corporation of any sort?

A. No.

Q. While you have been with the Petroleum Chemicals Division over the period that you have described, have you ever heard anyone mention or discuss any agreement with Ethyl Gasoline Corporation?

A. No.

Q. Is it your opinion that you have been associated with the organization of the Petroleum Chemicals Division intimately enough so that if there had been an agreement, you would have heard about it?

A. I don't think there is any question about it. I have been in pretty close touch with the developments, and I am sure had there been any understanding or any restrictions of any kind, I would have known about it.

Mr. Horsky: You may have the witness.

[fol. 4046] JOHN F. DALEY, called as a witness on behalf of the Defendants, having been first duly sworn, was examined and testified as follows:

[fol. 4047] Direct examination.

By Mr. Horsky:

Q. Mr. Daley, your name and address for the reporter.

A. John F. Daley. I live in Wilmington, Delaware.

Q. What is your present position with the du Pont Company?

A. I am general manager of the Organic Chemicals Department.

Q. Will you tell us briefly what other positions you have held with du Pont prior to your present position?

A. Well, I started with the du Pont Company in February, 1915, in a plant manufacturing smokeless powder at Carney's Point, New Jersey.

I stayed at that plant until the production was suspended in February, 1919.

Q. Is that the same plant Mr. Harrington was supervising at that time?

A. That is right, yes.

Between 1919 and 1925, I had supervisory jobs in various chemical operations at the du Pont plants, manufacturing paint, varnish, lacquer, aluminum sulphate, and so on.

In 1925 I was transferred to the Pigments Department plant in Newark, New Jersey, and I was manager of that plant until 1932.

In 1932 I was made production manager over all the plants in the Pigments Department, and I stayed in that job until 1940. At that time du Pont had received or been requested by the United States Government to build and operate the first ammunition plant which the Government wanted built in connection with supplying ammunition to the Allies in World War II.

I was sent down to Charlestown, Indiana, to be manager of that plant.

[fol. 4048] Q. Were you in the employ of du Pont or of the United States at that time?

A. That was du Pont. Du Pont had a contract to operate it.

I stayed there about two years and came back to the Pigments Department. I was there about three months when the Chief of Ordnance, the United States Army, asked me to take a job with the War Department in connection with the manufacture of ammunition.

At that time the War Department had a total of 55 Government owned contract operated plants, making ammunition of various types and ammunition components.

Those plants were supervised by an agency in the Ordnance Department, and I took the job as deputy field director of ammunition plants. I got a leave of absence from the du Pont Company and I stayed on that job for two years.

Then I came back to the Pigments Department again, I guess it was around the end of 1944, and shortly after that I became general manager of the Pigments Department. In June, 1948, I was transferred to my present job as general manager of the Organic Chemicals Department.

Q. Do I understand from that recitation correctly that your first contact with anti-knock marketing and production was in June, 1948?

A. That is right.

Q. What are your duties as general manager of the Organic Chemicals Department?

A. Well, I supervise the activities of the department. I am fully responsible for the results of the department.

Q. Will you state what the major products of the department are and how it is organized, briefly?

[fol. 4049] A. We manufacture a complete line of dyes, and a rather wide variety of chemicals for the textile industry.

We manufacture synthetic rubber, which we market as Neoprene, and a line of rubber chemicals.

We manufacture the refrigerant which we market as Freon, and we manufacture tetraethyl lead, and a supplementary line of petroleum chemicals, and a rather wide variety of other chemicals for the paper, drug, leather and soap industries, and so on.

Now the department is organized—we have a director of manufacture, who has full charge of our manufacturing activities.

We have a director of research. We have a separate director of sales for each one of the major commodities.

You might say that we have an organic chemicals business, and we are responsible to the Executive Committee of the du Pont Company.

Q. What is your relationship with the Executive Committee?

A. Well, du Pont Company is divided into ten separate operating departments, each one with a general manager.

Q. Of which organic chemicals is one?

A. Organic chemicals is one of them.

Now, each general manager has fairly complete authority to run his own business, subject to certain specific regulations, matters which he must take up with the Executive Committee.

For instance, in the investment of additional capital above a certain stipulated amount, he would have to refer that to the Executive Committee, and then there would be matters of over-all policy, something that might affect more [fol. 4050] than one department, and you would naturally take that up with the Executive Committee.

I would say that the things that you take up are quite major items, otherwise you run the department as the chief executive of the department.

Q. Do you report to the Executive Committee orally or in writing?

A. Everything that you take up with the Executive Committee, the rules of the company require you to submit it in writing.

Q. Do you report to any other officials in the du Pont Company apart from the Executive Committee?

A. No, the general manager has relatively complete authority and reports to no one else.

Q. Let me come more specifically to tetraethyl lead. That is one of the products, you say, which the Organic Chemicals Department markets, is that right?

A. That is right.

Q. And produces as well?

A. That is right.

Q. Do you delegate the responsibility within the Organic Chemicals Department for the tetraethyl lead opera-

tion to a single person or to a group of people, or how does that work?

A. Well, tetraethyl lead is handled like every other major commodity. We delegate the authority—well, the authority for manufacture is under the director of manufacture; the research work is under the director of research; and we have a separate director of sales.

Q. Mr. Sabina's position as technical manager bears what relation to the general director of research that you mentioned?

A. Well, there is necessarily a very close tie-in between research and technical manager of sales.

[fol. 4051] Q. Technical assistant to sales, I believe, is the term.

A. Technical assistant to sales. Mr. Sabina is in a liaison position between research and sales and the technical contact with our customers.

In other words, he takes men out of the research laboratory where that is indicated, men who might have contributed to a certain piece of work in which a customer would be interested. He is free to go and take those men out to the customer's laboratories or offices for technical discussions, and so on, and he brings back to research any work which he knows of which will guide them in their research work.

Q. Apart from manufacture and research, the balance of the tetraethyl lead operation is in the Petroleum Chemicals Division, is that correct?

A. That is right.

Q. Will you tell us briefly how the Petroleum Chemicals Division itself is broken down, is organized?

A. We have a Petroleum Chemicals Division Director of Sales, and an Assistant Director of Sales. Reporting to them is a Sales Manager.

Reporting to the sales manager are the five district managers, and reporting to them, in turn, are the field salesmen.

Now that is the direct line of selling. Going back to the director of sales and his assistant, in addition to the sales manager reporting to them, they have a number of specialists, men who are qualified in various activities which we consider necessary adjuncts to sales and are equipped to

be of assistance to the salesmen and to the customers when called on.

I have in mind the manager of operations who is a refinery expert; the medical manager, the safety manager, [fol. 4052] the sales promotion manager, the advertising manager, and so on. They have quite a number of men there, and each one of those men has a staff of several assistants who are trained in the same specialized fields.

Q. What is your relationship to the Petroleum Chemicals Division and this group?

A. Well, I get routine reports from them. I have frequent discussions with them, and I am fully responsible for their results.

Q. At the time that you became the general manager of the Organic Chemicals Department in, I think you said June of 1948, was the organization the same as the way you have now described it?

A. No, it was not.

Q. What was the difference?

A. Well, at that time all of the personnel working on tetraethyl lead were in a separate division, with division manager and assistant division manager.

When du Pont started in, when they made a decision to start to market tetraethyl lead, the people who knew anything about tetraethyl lead had been the men who had been in charge of manufacture and had come up through manufacturing, spent all their working lives in manufacturing. They just tacked the rest of the organization onto those two men, the top men, and made them division manager and assistant division manager with a sales head, technical head, and so on, reporting to them.

Well, it seemed to me that our job——

Q. Do I understand that you changed that?

A. Yes, I changed it.

Q. Go ahead.

A. I didn't like it because our job was going to be very apparently a sales job.

[fol. 4053] Q. When did this change occur? Let me interrupt to ask that.

A. It occurred at the end of 1948, first of 1949.

We knew as much about manufacturing tetraethyl lead as anybody did. We had no worry on that score. We had

an excellent research background and an excellent research director and personnel.

We didn't know anything about selling tetraethyl lead, and I figured we were up against a long established, firmly entrenched, and very capable sales organization who had very definite advantages over us. I didn't want anything in the way of a division manager who had grown up in production work to impede in any way our sales effort.

I wanted to put the sales responsibility right squarely on the men who were going to sell, and not to have them inhibited in any way, and hold them accountable for results. Give them free rein in the development of personnel, their policies, and so on, subject only to my own direction. That is what I did.

Q. I understand you to mean that you took manufacturing and research out from under, in other words, and put them under the general manager of production and manager of research of organic chemicals?

A. That is right.

Q. Let me ask you a few questions about the kind of selling arrangement you have.

You have two types of anti-knock fluids, is that right?

A. That is right.

Q. That is "Aviation Mix" and "Motor Mix"?

A. That is right.

Q. Those are the trade names that du Pont uses?

A. That is what we call them, yes.

Q. Does Ethyl Corporation also have two types of fluid?

A. Yes, they do.

[fol. 4054] Q. The composition of the fluid—let's take aviation first.

Is the composition of du Pont's aviation fluid identical with the composition of Ethyl's aviation fluid?

A. Yes, I would say so.

Q. How about on the side of the motor fluid? Is the composition of the two the same?

A. Yes.

Q. Is the color the same?

A. Well, you have the dye to begin with which can vary and probably does vary, for all I really know. There are certain changes made in certain dyes from time to time, but that is of small importance.

Q. Are the prices of the two products—let us take aviation fluid. Is the price of the du Pont aviation fluid the same as the price of the Ethyl aviation fluid?

A. Well, the unit price as quoted is different. The end price, in cost I would say to the consumer, is very close to being the same. The tetraethyl lead is a specific chemical compound, and you add very definite quantities of dibromide or dichloride. In the case of aviation gas, it is dibromide.

In other words, if you have a specific chemical compound which has guaranteed quantities of certain added materials, naturally the price of yours and the competitive material will have the same value and find the same price level.

The Ethyl Corporation, for some reason, priced their materials on the basis of the number of cc's in the fluid.

Q. Of what, of lead?

A. The number of cc's of tetraethyl lead in the fluid. Well, inasmuch as it is a guaranteed quantity of each one of the ingredients, it seemed to us to be rather unnecessary to go through all of that arithmetic, so we just price ours [fol. 4055] at so much a pound of fluid, but, as I say, the end result comes out to be practically identical.

Q. That is true likewise of the motor fluid?

A. That is right.

Q. Can you explain why the prices are the same?

A. Well, we are dealing with the same raw material. In general, the quality is guaranteed to be the same. It has to be the same if it is going to compete. It is rather foolish to believe that a purchasing agent will pay one man more than he will another man for the same product. There is a guarantee in our contract that our price will be competitive with competitive prices, and I think Ethyl has the same specification in their contract as to meeting competitive prices.

Q. Does the price level change from time to time?

A. Well, the price level in the past has changed quite a bit, particularly when you are in a period of fluctuation in the pig lead market. That is one of the major cost items. It changes as often as every three or four months.

When price restrictions were on, the changes, of course, were minimized. I think there were no price changes at all in 1952.

Q. How does du Pont ordinarily announce a price change?

A. Well, we have a specification or agreement in our contract with the customer that we will give him thirty days notice in advance of a price increase.

For that reason, when we make up our mind to make a price increase, we wire each customer.

Q. You mean something in advance of thirty days before the effective date?

A. That is right.

Q. Do the trade journals of the oil industry report that [fol. 4056] action generally?

A. Yes, the trade journals like to have news when it is fresh. If you don't notify—if we make any change which we know is of interest to the petroleum industry, if we don't tell the trade journals they are very much annoyed, and will say so; so we make it a practice to notify the trade journals in the petroleum industry when we make a price change.

Q. Do you send an announcement of your proposed price change to the Ethyl Corporation?

A. No, sir.

Q. Do you receive announcements of Ethyl's proposed price changes from Ethyl Corporation?

A. No.

Q. Is there any understanding or arrangement, or practice, Mr. Daley, by which either du Pont or Ethyl customarily makes the first announcement?

A. No, sometimes it would be one, and sometimes it would be the other.

Q. Is it customary or is it usual that if du Pont announces a price change that Ethyl likewise announces a price change? Let us say if you make one first, does Ethyl usually follow?

A. Well, when we make a price change, we do it for good reason.

Q. Let us take one going down. If you reduce your price, does Ethyl usually follow down?

A. Well, Ethyl would have to meet the competition.

Q. And if Ethyl reduces its price, do you usually go down?

A. Yes.

Q. Now, suppose you go up. Does Ethyl usually go up with you?

A. Well, they don't have to go up with us. They have no guarantee with the customer. What I started to say a minute ago was that the factors that dictated to us the justification or necessity for price increase, would be a change [fol. 4057] in the price of the pig lead or some other raw material. The thing that has affected us is bound to have affected the other consumer. It may be an increase in labor rates, and with the practice that has prevailed over these last few years, an increase in labor rates is no secret. If it happens in one area, it happens in another area.

When we come to the point of figuring that because of these changes in the cost conditions we ought to have a price increase, we can also make a pretty fair estimate that anyone else manufacturing this same commodity is going to feel the same way.

If we felt that the reasons that we wanted this price increase were peculiar to us, we would not change the price. It would be plain suicide.

Q. Have there been occasions, Mr. Daley, when you have announced the price increase which Ethyl has not followed?

A. Yes, there have been a couple of instances where price increases have been made. We have gone high, and we have had to back down to their level.

Q. Because Ethyl did not follow you?

A. Didn't follow, that's right.

Q. Have you ever consulted about prices with anybody in the Ethyl Gasoline Corporation?

A. No.

Q. Have you ever discussed prices with anybody in the Ethyl organization?

A. No, sir.

Q. Well, let me take a little different topic here:

How do you deliver your "Motor Mix" and "Aviation Mix" fluid to the customer? What form does the delivery take?

A. Well, most of the refineries are equipped with railroad sidings, and we deliver to them in tank cars. Now, there [fol. 4058] are some that are not so equipped. They are relatively few, but deliveries to them would have to be made by tank truck or by means of drums.

Q. Do the facilities that you offer to the customer by way

of the delivery differ in any respect to that Ethyl offers by way of delivery?

A. Yes, I think there is a difference there. Our plant is in New Jersey, and our customers run all the way across the United States—Illinois, Michigan, Oklahoma, Texas, California and so on. Well, it could take as long as two weeks to get a carload of tetraethyl lead to some customers from our factory, and one of our men conceived the idea that it would be a nice stroke if we rented sidings from railroads at strategic locations.

We went ahead and did that. It gives an insurance of supply to the customer. He knows that stock is there, and he can get it if he needs it. We can deliver tank cars of tetraethyl lead to a Chicago refinery in six hours, if we have to.

Q. I don't think I understood you. You rent the sidings, and then park the cars there?

A. We store loaded cars of tetraethyl lead on those sidings right ready to go to the customer's refinery on call.

Q. Does Ethyl Corporation do that?

A. As far as I know, they do not. There is the question of the people who are not equipped with sidings. We install storage capacity out in California so that we can deliver in truck or even in drums to some customers.

Ethyl Corporation has such a storage near the Marcus Hook area just north of Wilmington, to supply the eastern customers.

We don't have any as yet on the Gulf Coast which is a [fol. 4059] very substantial outlet for tetraethyl lead. There are a lot of refineries down there, but we are projecting our next plant to be built down there on the Gulf Coast.

Q. Is there any difference in the facilities that you offer by way of truck deliveries from those offered by Ethyl?

A. Not except from those tank storage locations.

Q. Do you have any facilities that you can offer the refiner by way of mechanical equipment for his refinery, to get it from the tank car or the truck into his own tanks.

A. Well, we have rather recent developments there, relatively recent.

One of our men conceived the idea of using a flexible metallic hose for unloading. Previously they had used the pipe couplings which caused a lot of time—it was time-

consuming—and the handling of various of those connections and couplings increased the lead poisoning exposure, and the simplified set-up that this man of ours developed was quite a boon to the refinery and had been quite appreciated. We have had expressions of appreciation for the job.

Q. Does Ethyl offer a similar hose?

A. I don't know.

Q. Do you both sell to the same classes of customers?

A. No, I don't think so, entirely. We took the position that anybody that qualifies properly as a buyer of tetraethyl lead, that we should sell him.

Q. What are the qualifications?

A. Well, we set the qualifications. Let's say he has to be financially responsible and he must be equipped to handle tetraethyl lead in a manner which is approved by our medical and safety council.

Now, there are jobbers of gasoline—people who buy in large volume and sell through a chain of stations—such [fol. 4060] people as those, if they can qualify from the medical and safety angles, we sell them.

It is my understanding of Ethyl's policy that they won't sell to anybody without a refinery.

Q. Does du Pont sell to some of these?

A. Oh, yes.

[fol. 4061] Q. Mr. Daley, I would like now to turn briefly to the topic of the sales techniques that du Pont uses in selling its Motor Mix and Aviation Mix.

Let me get a bit of the background. When you arrived in the Organic Chemical Department in June, 1948, had the sales program of du Pont with respect to its anti-knock fluid been successful up to that point?

A. I think the sales volume in 1948 was substantially higher than could reasonably have been expected for the first year of effort. They sold a total of 60,000,000 pounds, which was substantial.

However, there was a shortage question involved which probably influenced that to a considerable extent.

Q. Did that shortage continue?

A. That shortage was over by the end of 1948.

Q. Did the end of the shortage have any effect on du Pont's selling activities or sales?

A. Yes, it did. Certain customers who had gone to du Pont [fol. 4062] because of the fear of shortage were going back to the Ethyl Corporation.

Q. In the latter part of 1948, you told us that you reorganized the sales department—I mean, reorganized the Petroleum Chemicals Division to separate out from under manufacturing and research a sales organization with the sales manager or director of sales at the head of it, is that right?

A. That is right.

Q. Was that reorganization in any way caused or motivated by the fact that du Pont's sales were shrinking?

A. Yes, it was.

Q. Did it have an effect of bringing them back up again?

A. I think it had quite a good effect on bringing them back up again.

Q. Did the reorganization effect any change in the customer approach by the du Pont sales organization?

A. Yes, it had a very definite effect in that respect.

Q. Would you explain what the difference was, what the change was?

A. Well, you have to understand the difference as we found it between our past experience in selling chemicals and the policy which was being followed in the sale of tetraethyl lead.

In the sale of chemicals, you invariably sell to the purchasing agent or to the factory manager, the man who consumes the product and is responsible for the quality of his product in turn.

In the case of tetraethyl lead, to our surprise we found that in the oil company, that is the buyer of tetraethyl lead, the man who had a great deal to say about the purchase of tetraethyl lead and where it was bought was the vice-president in charge of marketing.

Now that stemmed from the fact that when Ethyl started to sell tetraethyl lead, they sold it on the principle that it [fol. 4063] could be used to increase the sale of gasoline, and the man in the oil company, who was interested in increasing the sale of gasoline, was the vice-president in charge of marketing.

They went after him, and he became the one who called

the tunes on tetraethyl lead purchases in a great many cases.

We found that we had to get in there and work, expand our activities. We had to continue, of course, to sell the purchasing agent and the manufacturing department because we think that is the sound way to sell, but we also had to expand our activities to sell our services and build up our reputation with the marketing divisions. That is what we did.

Q. Was there any particular event or occurrence which brought the necessity for this change in approach to your attention?

A. Yes. At the end of 1948.

Q. What was that?

A. We had had one hundred per cent of the business of the Union Oil Company of California in the year 1948. When we went to renew this contract in 1949, we were given just half the business, instead of the whole business. The top man in that company told me personally that that was done on the advice of their marketing division, who said that they were being given substantial help in their marketing efforts by the Ethyl Corporation, and they thought it ought to be recognized with business. They were giving them much more help than du Pont was in that respect.

Q. Did you find that du Pont could organize a program of being of assistance to the marketing divisions of the oil companies?

[fol. 4064] A. Yes, and I must admit somewhat to my surprise. I didn't think it normal to expect that people who were marketing tetraethyl lead could be of any great assistance to people who had spent their lives marketing gasoline, but it did happen that way.

Q. Did you find that the existence of the Ethyl trademark was an obstacle in selling your anti-knock fluid?

A. The Ethyl trademark was very much of an obstacle.

Q. Why was that so?

A. Well, I would say it was the greatest obstacle that we have run into in marketing tetraethyl lead.

The Ethyl Corporation have what they call a trademark agreement, and they ask the refiner to sign this trademark agreement, and if he signs it he is permitted to use the word "Ethyl" in his brand name, for instance, or in his

advertising or in signs about his filling stations and he has the privilege of using what is called the Ethyl emblem on his pump.

The refiner on the other hand commits himself in this agreement that any gasoline that is put through that pump on which the Ethyl emblem is displayed will contain only tetraethyl lead manufactured by the Ethyl Corporation.

Now that agreement applies to premium grade gasoline. It doesn't apply to regular grade nor does it apply to aviation grade. So you might say that those two sales fields are still open to us without any hampering whatever or any effect from this trademark agreement. It is true for aviation gas. We can compete and we do compete very successfully in the sale of aviation gas without harm from this trademark agreement.

But you will find a great number of refineries who have only one scale tank, storage tank for tetraethyl lead, and [fol. 4065] if they buy tetraethyl lead from two sources and mix them in that tank, they have had rulings from their legal departments that they are no longer in a position to carry out the commitment they have made in the trademark agreement because inevitably the tetraethyl lead will be mixed, and they will be putting gasoline through their premium pumps which contains something other than the Ethyl tetraethyl lead, and that would be a violation of their agreement, and their legal departments have told them that that wouldn't be proper.

Q. Just so we can be clear, there is some anti-knock fluid put in both regular grade gasoline and premium grade gasoline now, is there not?

A. Practically every gasoline sold today has tetraethyl lead in it.

Q. But the greater percentage of tetraethyl lead is in the premium gasoline, of course?

A. I believe in most cases that is correct, depending on the base stock that they start with.

Q. Now, could you describe for us, Mr. Daley, some of the techniques that du Pont has developed for assisting itself in the sale of its anti-knock fluid by helping the marketing organization?

A. Well, du Pont has developed quite a number of techniques. I can think of some outstanding ones. I think the

one which has had the greatest effect and has been of maximum interest to our customers and prospective customers is the so-called fuel test fleet which we have inaugurated, and we started in 1950.

We equipped two automobiles with some very intricate instruments which measured the anti-knock properties of the fuel and measured the engine performance, and measured [fol. 4066] the fuel efficiency and we equipped these cars with ten separate storage tanks for ten different fuels. You can sit in the front seat of that car, and you can change your fuel by pressing a button and instruments on the dashboard immediately in front of you show the anti-knock properties, the engine performance, the fuel efficiency, and so on.

It was a very extensive and a very elaborate set-up, and it had a very strong appeal to the marketing division of the oil companies. It was a tool which they immediately recognized that they could make excellent use of in selling to their customers and in demonstrating their product to their customers in a very simple, ready, and easy fashion.

We sent those cars 50,000 miles. I think it was, in the year 1950 demonstrating them to our customers.

Q. Did I understand you to say that these were made available to the oil companies so that they can show their gasoline to their customers, is that the purpose?

A. Well, they used them for several purposes. They used them for educational purposes for all of their personnel, and fuel station distributors, and they use them to make comparisons for their own benefit of their own and competitive fuels and they use them as a sales aid to their customers.

Q. Let me ask you about some papers, Mr. Daley, which have been marked du Pont's Exhibits 149, 150, 151 and 152. Will you explain to the Court what those are?

Mr. Harris: If the purpose is to introduce them into evidence, we object at this time to their introduction. They are purely advertising matter.

Mr. Horsky: That is exactly what they are, your Honor. That is exactly the reason I am offering them here to show [fol. 4067] that du Pont is using a sales tool. I think the record should show how du Pont is trying to sell.

Mr. Harris: This witness has told the story. He is under oath, and I call the Court's attention particularly to three

of these documents, Exhibits 150, 151 and 152. They are nothing but studies in road knock tests, and octane numbers. It is the same kind of technical material that your Honor ruled on the other day.

The Court: Are you objecting to 148 and 149?

Mr. Harris: Well, I haven't 148 before me. 149—

147, if your Honor please, and 146, we have not objected to for the obvious reasons that they were announcements beginning in 1948 of the entry of the du Pont Company into the distribution of tetraethyl lead, and we felt they were proper.

These other exhibits are not in the same class at all. If your Honor will look at 149, it is a highly illustrated document, talking about the fuel test fleet which the witness has very simply described now.

Mr. Horsky: I have not offered No. 153. I have not asked the witness to look at No. 153.

Mr. Harris: I don't say you have.

He is talking about the fuel test now without any pictures. 153 is just a volume of pictures telling the story of the du Pont services to the petroleum industry.

We submit they cannot make in this record a glorification of the du Pont Company. They have to meet the issues we believe with other evidence.

[fol. 4068] Mr. Horsky: The issue, your Honor, in this case, as I understand this portion of the case is whether du Pont is competing with Ethyl, or whether du Pont is not competing with Ethyl.

The purpose of these exhibits, it will be explained in answer to questions, is to show how du Pont is competing with Ethyl. These are not to show what octane numbers are. These are introduced to show how du Pont marketed tetraethyl lead in an attempt to effectively compete, and I do not introduce them for the textual material, or the truth or falsity of the statements in them, but simply as an illustration which the witness cannot describe orally, of the material which du Pont uses.

Mr. Harris: I think the last statement of counsel puts him out of court. He said he is not putting them in for what is in them. The witness is telling the story.

Mr. Horsky: I am putting them in, Mr. Harris. I am trying to answer any statement that you may make that you cannot cross examine any witness.

The Court: Any evidence that shows competition is material.

Mr. Harris: I submit that is proper from the witness.

The Court: It seems to me if there is written material in these exhibits that tends to corroborate what the witness has said, that is further evidence.

Mr. Harris: Your Honor can see that there is no limit to that?

Mr. Horsky: I have not offered them yet.

Mr. Harris: Allow me to finish, please.

[fol. 4069] The other side of this is that you do not have before you what Ethyl is doing. It does not tell anything about the kind of competition that is going on.

Nobody is saying anything about Ethyl here. They simply come in and show you these books of pictures.

The Court: Of course, I cannot anticipate what is coming.

Mr. Harris: I say it does not come in, you do not get any picture of the kind of competition that is going on. I submit the proper way, your Honor, to prove it is the way they are doing it before they came to these pictures, and that is by witnesses who can be cross examined.

The Court: Well, if these exhibits tend to corroborate what the witness has said, they are additional evidence.

Mr. Harris: Would your Honor care to look at them before your Honor rules?

The Court: Yes, I will.

By Mr. Horsky:

Q. Will you explain what these documents are beginning with 149, 150, 151 and 152. Tell the Court first what they are; and second, what they are used for by du Pont in its selling efforts?

A. Well, I have stated we sent two cars out on the road, and the two of them made 50,000 miles apiece in 1950. They were scheduled to go across the United States. They went from refinery to refinery, and they demonstrated to the interested people who were present at that time, at that location what the cars could do. They supplemented the actual demonstration with this descriptive matter which explained what we were showing these people, this illustrated folder here.

[fol. 4070] Q. That is du Pont's Exhibit No. 149?

A. 149 shows the makeup of the instrument panel on the dashboard of the car that I mentioned. It also shows the ten separate storage tanks in the back of the car. It shows the number of fuels that can be demonstrated while the car is in operation.

Q. Are those widely disseminated throughout the oil industry, those folders you are holding in your hand?

A. Yes.

Q. Will you proceed with the other three booklets?

A. The other three are details of the explanations made by the demonstrators, when they took these cars around, what they told the people, how they explained the road knock instrumentation, and all the instruments that were in these cars.

If you just look at du Pont Exhibit No. 150 for a minute, and take just one page which is folded down, you can see, for instance, the wiring system on the car and how intricate it is. It is a hard thing to describe in a few words, but just looking at it, you can see that a very tricky and intricate job has been done in putting this together. After our men complete their demonstration, they leave these folders behind so that the people who have seen the demonstration can review it, and they can show it to other interested people who might have missed the demonstration.

Q. Are these pamphlets made available, these pamphlets du Pont Exhibits Nos. 150, 151 and 152, made available to the companies for the purpose of allowing them to transmit them to their customers, the oil companies' customers?

A. Yes, they would serve that purpose. It gives them a better, thorough understanding of what the cars are for, and so they in turn can—

Q. Are these what you would call sales tools used by du Pont?

A. Definitely.

[fol. 4071] Mr. Horsky: I submit they are admissible, and I offer them in evidence.

The Court: That is which ones?

Mr. Horsky: Du Pont Exhibits Nos. 149, 150, 151 and 152. I have not come to 153 as yet.

The Court: Well, suppose you go ahead with 153, and I will read these others.

By Mr. Horsky:

Q. You were describing, Mr. Daley, some of the techniques which I asked you about that du Pont uses, and the first one you mentioned was this fuel test fleet.

Are there other techniques which du Pont uses to aid the marketing organizations of the companies, of the oil companies for the purposes of selling?

A. Yes, I have particularly in mind our quarterly national gasoline quality survey. Now, the quality of gasoline that is being marketed by the various companies all over the United States is of interest to every other company who competes with them. It is a matter that any manufacturer would want to keep up to date on.

We are organized to take about 700 samples of gasoline within a period of about forty-eight hours from every important distributing center in the United States. We are set up to get those samples to our laboratories, to have the analysis made, to have the results tabulated, to have them printed in rather attractive form, and on the desks of the petroleum refiners in a very short time while the information is fresh, while it is of maximum interest to them, and it has an added value in that it is a repetitive service. It happens every three months. And our name gets on those [fol. 4072] desks through this booklet which tabulates this information, and as I said, it is information they want and they appreciate it, and they have told us so a great many times.

Q. Is that continuing now?

A. Oh, yes, that has been in effect for a matter of years, and is continuing.

I could take, I could refer to another item:

When we decided we wanted to compete with the Ethyl Corporation in the service we gave to the marketing divisions of the oil companies, we had to find out what would interest the marketing divisions of the oil companies, and one item which we found concerned a number of them was sort of a growing conception on the part of a great many representatives of the public that the oil trucks used on the public highway hadn't received proper attention in the matter of affording adequate safety.

Well, we sent some engineers out to study just wherein these oil trucks were inadequate, to see if we could make a

contribution towards improving them, and they came back after a very thorough analysis and said they thought that the oil companies had done an outstanding job in putting every possible safety precaution into those trucks.

Well, our people then decided to have a moving picture made which was to demonstrate that, and demonstrate the basic features that were built into the trucks, and worked out in such a way to show that they had every reasonable safety on the public highway.

We called that picture "A Pipeline on Wheels," and we sent it out to various refiners on sort of a scheduled basis, and the reception was such that we didn't have anywhere [fol. 4073] near enough prints. They all wanted it, and all wanted to show it to their organizations, to civic organizations, and church organizations, and so on, and we had to get out a great many extra prints to take care of the demand that came in for that picture.

We have another item which is more recent. We hired an outside organization to make a gasoline consumer buying-habit survey. It was a very complete job, a very detailed job, and it went into why people buy gasoline where they buy it, why they buy the brand they buy, what they buy while they are on the road, what type of station attracts them, the value of other merchandise sold in the station, and the thousand and one angles.

Well, our people have been able to take that and draw out of it, pull out of it, some very valuable information for use by merchandisers of gasoline.

Q. Have you made it available to them?

A. Oh, yes.

Those are the illustrations I could think of at the moment for the type of service that we give.

Q. Do you know whether Ethyl Corporation has movies which it makes available to the oil industry?

A. Yes, I am pretty sure they do.

Q. Does du Pont also have a film library in addition to this "Pipeline on Wheels"?

A. Yes, we have a rather complete library, mostly on technical subjects and other types of demonstrations pertinent to refinery operations, and so on. The one I am speaking of is rather exceptional, "The Pipeline on Wheels" story.

Q. Do you know whether Ethyl gets out any printed material as an aid to its own selling?

A. Yes.

Q. In quantity?

A. Oh, yes.

[fol. 4074] Q. Can you illustrate, Mr. Daley, how any of these particular techniques have either gained you or retained you a customer, a particular customer?

A. Well, I have told you how we lost half of the Union Oil of California business because we weren't giving good relative service of this type..

Now, on the plus side I can think of the Ohio Oil Company. We had gone—we had been trying to sell tetraethyl lead to the Ohio Oil Company through the years 1947, 1948 and 1949, and we made a lot of friends. We did a lot of good work there.

We could sort of get men on base, but couldn't get a run in or get an order. That is about what it amounted to.

But along came the test fleet that I mentioned. Now, for some reason, that Ohio Oil, they wanted one of those cars, and they wanted it right now.

They recognized it as something that would be an important sales tool to them.

Well, we couldn't interrupt our fleet schedule, but they asked us if we would accept an order to equip a car in that way for them. We did accept the order, and they sent three men into our plant in New Jersey, and they watched or helped with the installation of the equipment and we instructed them in this operation so they could carry on on their own.

I don't say that is responsible. I don't think any one act is responsible for a contract. The contract is usually gotten by virtue of the last thing you do for somebody. It is sort of the straw that breaks the camel's back performance.

We had done all kinds of work for Ohio Oil, and had lots [fol. 4075] of association with them, but significantly after this one occurrence we got an order for a contract for part of their requirements for the year. This was 1950.

I can think of a similar occurrence with Sun Oil Company.

Sun Oil Company marketed their gasoline line as Blue Sonoco. I believe at that time—which again was, I sup-

pose, around 1950—the gasoline that we marketed, and I think Ethyl gasoline was, too,—was colored an orange.

Q. You mean the fluid you marketed?

A. The fluid, the tetraethyl lead, yes. It would give it a distinctive color as a warning for its toxicity properties. That aggravated the dyeing problem of the Sun Oil Company. They had to have dye to color the gasoline, and had to have dye to offset the orange dye that Ethyl had in their tetraethyl lead—not that we had, because we didn't have the business at that time.

One of our men—it sounds awfully simple now—one of our men conceived the idea of selling them blue tetraethyl lead which simplified a great deal this dyeing problem and enabled them to use less dye and significantly it happened just shortly after that we got our first contract for motor mix for the Sun Oil Company.

Q. Can you think of any other illustration?

A. Well, I can think of the Sinclair Refining Company. It is another case where we had a lot of good friends, we did a lot of good work, but the Ethyl Corporation was rather strongly entrenched in there.

I think it was in 1952 that I was talking to some—

Mr. Harris: If the Court please, we object to any statement [fol. 4076] as to 1952. They have gone up to 1950 and 1951. This is long after the filing of the complaint. The complaint was filed in 1949.

Mr. Horsky: I can't see any difference, your Honor, as to any period after the filing of the complaint. It has gone without objection to this point. I think it is still admissible.

Mr. Harris: I think we can make the objection at any time, and this is bringing it almost up to date.

The Court: Overruled.

The Witness: This was in 1952. I was talking to some of the top men in Sinclair Refining Company. At that time they were taking a rather important step.

They were going into the manufacture of petroleum chemicals, forming what they call their Petro Chemical Division. It was a field in which they had not had a great deal of experience. There appeared to be quite a lot of difference of opinion within their own organization as to their approach.

They had to start research in a field in which they had not previously researched. They had to build laboratories. They had to decide which avenue to start on. There is a wide variety of materials, of chemicals, which can be manufactured from petroleum materials.

Then they wanted to know—they were concerned about how many people had gone into that field recently, and what did the chemical industry want in the way of raw materials that they might more properly start on than to make up their own minds by scattered information wherever they could get it.

I told them I was not the authority on any of the angles [fol. 4077] they were talking about, but I suggested that we did have people in Wilmington who I would call expert in certain lines who could give them, I thought, very good information.

We had a brand new research center down there, a research center that cost a great many millions of dollars. It might not be the best research equipment in the world, but at least it is one of the newest ones and embodied what we thought were the newest and best features.

All in all, I suggested that they might very well send some people down to look at what we had, and to talk to different people in our organization about the different aspects of their proposed venture on which they were undecided.

They did that. They sent down ten of their top people, and they spent a full day with us, going over all of our facilities. They asked all the questions they wanted of the various people whom we thought were qualified to answer them, and they told us that they got a tremendous lot out of the visit.

It was a very short time after that that we got our first order from Sinclair Refining.

Q. I don't want to prolong this unduly, Mr. Daley, but you say, in effect, in getting business that it is doing the last thing, and getting over the hump, getting a man from third base to home.

Can you, without taking too much time, take a single account, any single account, and explain more or less from the beginning as to how you do get all the way around the bases?

A. Well, in preparation for coming out here, I reviewed a [fol. 4078] certain file that we have. We operate what we call a trade record system.

In the trade record system there is what we call a trade report which each salesman has to make out covering each call he makes on a customer, and high-spotting the important reasons for the call and the results, if any, obtained. In going through a half dozen of those of our major accounts or major prospects, the ones on which we devoted a lot of time and attention and work trying to get business, I was impressed with the file on the Standard Oil of Indiana.

It seemed to me to be quite a good success story,—success type of story. You will have to remember that Standard Oil of Indiana was one of the first and largest customers of the Ethyl Corporation. One time, I believe, they had exclusive right to the use of ethyl fluid in the territory in which they marketed. Ethyl was very strongly entrenched there.

Responsibility for that account with our company rested with our Chicago district manager. He maintains an office here and has about ten salesmen who work out of here, covering several states. He has a laboratory here, with several technicians and assistants in it.

Well, in a customary way they started their attempts to sell Standard of Indiana. We did have some kind of an entree there in that we had sold Standard of Indiana petroleum chemicals, the anti-oxidants or metal deactivators, and so on. So that we did have contact there and were able to get in and talk, at least. But we had no contact with the particular people who used and decided on the purchase of tetraethyl lead.

Nevertheless they kept at it, and our technical organization gradually assumed some prominence in the petroleum [fol. 4079] industry. They were doing some excellent work. They were presenting excellent papers, and they were being recognized.

There were a couple of those that had particular application to problems that Standard of Indiana were working on. They asked us to discuss it further. Mr. Sabina brought four or five of his men out here, sat down for one or two days' discussions with them, and we made our impression at practically every level of the organization.

The quarterly gasoline quality survey that I mentioned

had begun to make its appearance and had begun to make its impression as a worthwhile service to them.

Q. Did you receive any letters or things from them so that you knew this at the time?

A. We did. At the end of 1949 we were able to get their aviation business, a contract for aviation grade tetraethyl lead. That is where the Ethyl emblem had provided no stumbling block for us.

We continued through 1950 with our efforts, of course, and at that time our fuel test cars came out, made their appearance.

We had a very difficult time getting those test cars out of Chicago. We had to fight to get them out of here because Standard of Indiana wanted to keep at least one of those cars here. But we had lined them up on a very definite schedule, and we couldn't disappoint everybody else. But we had to make immediate plans to equip two additional cars for the exclusive use of our Chicago district manager, so he could place at least one of them at the disposal of Standard of Indiana for the quite extensive program which they visualized they could put them to.

At the end of 1950, we got a contract for one of the five [fol. 4080] refineries operated by Standard of Indiana. That was the Wood River Refinery. It was quite a feather in our cap in that they had marketed that premium grade of gasoline there under the Ethyl emblem, and it meant a big change in their policy, and it was very important to us.

Q. Did that mean they would have to take the emblem off their pump?

A. Definitely. They had to take the emblem off several hundred pumps. I wouldn't know how many exactly.

The next year we continued the work. I mentioned our motion picture "Pipe Line on Wheels." I noted one of those reports showed a representative of Standard of Indiana had asked our man to accompany him to a showing of that picture, to an annual meeting before 700 fire marshals in the Chicago district. He wanted to acquaint them with just how the gasoline trucks were made, how they were put together, such as was all shown in this picture, and he was very appreciative of being able to show that particular audience that picture.

We had another rather lucky break at that time. The du

Pont Company has a weekly radio program called the "Cavalcade of America."

That is handled under the supervision of the advertising department of the company. They, in turn, select for each program, with the help of some qualified outside people, the topic for the program, an outstanding event in the history of our country or some outstanding development which has made quite a contribution to our way of life, let's say.

One of those they picked was a development of catalytic cracking of crude oil, and it happened that that particular invention was made in the laboratories of Standard of Indiana [fol. 4081] and by two of their scientists—one was Dr. Burton, and I forget the other man's name.

Well, in putting on that broadcast, it is done very accurately. The principals, the actors and the producers and so on, all have to get a very accurate background of just what happened.

They had to pay many visits to Standard of Indiana's laboratories and talk with their officials, and so on.

The broadcast was made from New York. We invited the Standard of Indiana top officials into the broadcast, and the Standard of Indiana name was prominently mentioned several times throughout the performance, so that they got some very nice advertising out of it. They were most appreciative to us for that particular job.

We had a couple of other items about that time. Our lead safety clinic was inaugurated and that consists of some medical and safety men, sort of a team who go around and get together the employees at the refinery who are involved in any way in the handling of tetraethyl lead and giving them initial courses or refresher courses in the proper safety practices.

We showed that at one of the refineries of Standard of Indiana, and they immediately put in a request to have us do the same thing at their other refineries.

They thought it was a very excellent piece of work.

Q. And the result of all this was that you did get some business or did not?

A. The result of all that was that we got the second refinery, starting for the year 1952. That was the Sugar Creek refinery, they call it.

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[fol. 4082] Q. Do you still have that?

A. That gave us two out of five, plus the aviation business, we thought we had made quite a success story out of the whole thing up until the end of 1952.

Q. Then what happened?

A. We lost the Sugar Creek refinery. That went back to the Ethyl Corporation the first of 1953.

It just means we have to get in there and pitch and do just a little bit more because they must have outdone us just a little bit in 1952. Maybe we rested on our oars, but anyway, we lost one of them, and we will have to get back in there.

Q. Now I would like to show you, Mr. Daley, a document marked for identification as du Pont Exhibit No. 153, and ask you if you will explain to the Court what this document is and what it is used for by du Pont?

A. This is a rather detailed description of our specific services which we offer to the refiners.

It starts off in the very first paragraph with naming the various compounds and dyes and lubricating materials and additives that we do have available.

Q. May I interrupt to ask you whether it is of assistance to du Pont in selling lead that it can sell also other petroleum chemicals?

A. It is quite a sales asset to be able to have a full line, that is, a product for practically every requirement of a chemical additive that is used in that refinery business. It is quite an important asset to us.

Q. Does Ethyl have a similar full line?

A. No, they do not.

Q. Very well. Go ahead.

A. Yes. This describes the field laboratory services which we have available; the motion picture library which we have available for customers in training of their employees and in their sales efforts.

[fol. 4083] It goes into quite a good deal of description of the fuel test cars which I mentioned, showing the panel instrument and the storage tanks.

There is a part on our lead safety clinic, the men who supervise tank cleaning and the equipment that they insist that the customers' men use in their work whenever they come in contact with tetraethyl lead.

It is a quite detailed description of our research facilities that are available for studies in which our customers would be interested.

In general, it is a complete description of the services that we offer all the way from the technical side, the safety side, the marketing side, and the refining side.

Q. Is the yellow sheet at the back a list of the technical papers that du Pont publishes that are available?

A. Yes, that is a complete list of the papers that are available representing the technical work that our men have done, and all of them are items which the refiners are interested in.

Q. Tell me, Mr. Daley, what is this used for? How does du Pont use this particular publication?

A. They bring to the attention of the people the services we are equipped to give them, and remind them of those services we have already talked to them about, and urge them to ask our advice in any problem that they may have, either in their own refineries or in their marketing problems or any other problems.

Q. Is this distributed widely to the oil industry?

A. Very widely, completely.

Mr. Horsky: Your Honor, is it appropriate now to renew the offer of those exhibits?

[fol. 4084] The Court: Well, it appears to the Court, since it appears that these exhibits were used in the sales effort, and since competition is an issue, it follows that these are proper, and the Court receives them.

(Said documents, so offered and received in evidence, were marked du Pont Exhibits Nos. 149 to 153, inclusive.)

By Mr. Horsky:

Q. Mr. Daley, did you find over the course of the four plus years now that you have been selling anti-knock fuels you sometimes gain and again sometimes lose business from the same company?

A. Oh, yes, that will happen. Sometimes you are up and sometimes you are down. The trick is to have more ups than downs.

Q. Have you generally been successful in your sales efforts in this period you have been in the business?

A. I think so. As I said, we have sold about 60,000,000 pounds the first year, which was higher than could reasonably have been expected in that initial year, influenced somewhat by the shortage, nevertheless we were able to increase every year since then, reaching a total of 140,000,000 pounds in 1952.

Q. Do you sell outside of the United States as well as inside of the United States?

A. Yes, sir.

Q. Does Ethyl also do so?

A. Yes, sir.

Q. Do you solicit the same customers abroad that Ethyl does?

A. Well, I suppose we do. In general, I know we do, and I think we do everywhere because we try to hit every major refinery in the world.

[fol. 4085] Q. Coming back to the physical setup, has there been an increase since 1948 in the number of people in the Organic Chemicals Division who are devoted to the manufacture of tetraethyl lead?

A. Oh, yes. As your sales normally increase, you have to put additional units in, and as you put additional units in, you have to man them.

Manpower and production goes up in the same definite relationship.

Q. Your plant has expanded, is that right?

A. Oh, yes.

Q. Has there been an increase in the sales force that has been selling tetraethyl lead?

A. Yes, there has been a greater relative increase than in production. When they started the sales organization, they had a nucleus of fifteen men. When I came in the department in 1948, they had expanded to forty. Now there are well over one hundred and fifty.

Q. Do you know of any agreement, Mr. Daley, that would prevent the du Pont Company from selling all the tetraethyl fluid which your salesmen can solicit contracts for?

A. No.

Q. Are there any restrictions that you know of that can be imposed upon the limit of your growth?

A. No, none whatever.

Q. If there were such agreements of that sort, would you know about it?

A. I cannot conceive of there being any without my knowing about it. I would have to know about it.

Q. Would it be consistent with the method of the operation of the Organic Chemicals Department since 1948, since [fol. 4086] you have been in there, that there be such an agreement or understanding, limiting the point at which you could go in selling?

A. I do not see how it could possibly be. As I said, we spent millions of dollars on research. We have one group working on the possibility of finding new anti-knock compounds, and if anyone is going to come out with a new anti-knock compound, we want to be the ones, and we have another group spending large amounts of money improving the properties of tetraethyl lead, the current anti-knock compound. We are doing it only to increase sales. There is another proposition. We have a sales organization we are quite proud of. They are definitely on the young side. They came to us from other companies because they thought they saw a better future.

Now, we have regular meetings with our individual salesmen. When are you going to sell this outfit? What kind of people are they? What can you accomplish? How many of them have you got on your side? What kind of service is it we are lacking here? What can we do to influence them, to impress them? And every once in a while we sell one of these people.

Now, are you going to tell the salesmen that is very nice, but we don't want that business? We would not have any morale left; we would not have any salesmen left. They would not stay. That is one of the conditions, I am sure.

Q. Are you building plants for the future, geared to what your salesmen think they can sell?

A. Yes, sir, we are building to meet forecasted sales.

Q. Let me draw your attention very briefly, Mr. Daley, to a different topic. Do you recall the occasion in 1949 [fol. 4087] when du Pont purchased from General Motors its 49 per cent of the stock interest in Kinetic Chemicals?

A. Yes, sir.

Q. What was your connection with that purchase?

A. Well, I was general manager of the Organic Chemi-

cals Department, and the Kinetic Chemicals Company, and the operations of the Kinetic Company came under my supervision.

When the contract was negotiated, the Executive Committee appointed me as the du Pont negotiator, with the collaboration of a representative of the Development Department, who usually participated in such things.

In that particular case, Mr. H. E. Ford, who was the assistant director of the Development Department assisted in that.

Q. You did do the negotiating?

A. Yes, sir.

Q. Who was the General Motors representative? Who did you negotiate with?

A. Mr. O. E. Hunt, who was an executive vice president of General Motors Corporation, and he had with him Mr. Carl Kindl, as a consultant who stayed with him through all of the meetings that we had.

Q. When did these negotiations start?

A. Well, the authorization to negotiate was made in December, 1948 and we had our first meeting in January, 1949.

Q. How long did they last?

A. Well, we had a great number of meetings, and we never reached a satisfactory conclusion until about October of 1949, and the actual sale was consummated as of 1-1-50.

Q. That is January 1, 1950?

A. Yes.

Q. Now, without trying to state all of the discussions that took place, can you summarize the argument that went back and forth at these meetings?

[fol. 4088] Mr. Harsha: I would like to interpose an objection to this line of questioning. It is not at all in issue in this case. They already put in the Department's letter stating that we had no objection to the du Pont Company purchasing the 49 per cent interest of General Motors, and there is no allegation in the complaint whatsoever that du Pont purchasing General Motors' share of Kinetic Chemicals was any part at issue in this case.

Mr. Horsky: Do I understand, Mr. Harsha, that you will agree that this was an arm's length transaction?

Mr. Harsha: No, I am not interested in any stipulation on that, Mr. Horsky. The records in the case, it seems to me, speak for themselves; as to what the Department's position was on this purchase.

Mr. Horsky: Well, I am not trying to controvert the Department's position. I am interested in showing, and the purpose of this line of testimony, your Honor, was to show that this was an arm's length transaction carried out without any pressure from du Pont upon General Motors, or vice versa.

The Court. I think Counsel should be permitted to show that generally, without going into a lot of detail.

Mr. Horsky: The witness will be very brief.

By Mr. Horsky:

Q. Will you proceed with the answer to the question?

A. What was the question again?

Q. Give us a brief summary of the arguments that went back and forth in these meetings. What was at issue, and [fol. 4089] how did you resolve it?

A. We were willing to buy the General Motors interest at a reasonable price, and they were willing to sell at what they considered a reasonable price, and the trouble was that of arriving at a basis of valuation, which was agreeable to both of us.

Now, we had a number of meetings. We had the advantage of both sides having full information as to the earnings and the record of the growth of Kinetic Chemicals over a period of twenty years. Consistent with our usual practice we had our regular forecasts of the future, that is, the growth, the volume, the potential earnings and so on.

Mr. Hunt had Mr. Kindl with an accountant from General Motors go down to Wilmington to review with the Kinetic Chemicals management the basis on which they made their forecast, what factors they assumed for the future, and as we understood at the time, he was perfectly satisfied and we then arrived at what we considered then a basis for earnings for the future, and taking those expected earnings we tried to arrive at a satisfactory price.

The only trouble was that Mr. Hunt's idea of a satisfactory price was widely different from mine, and Mr. Hunt

was quite a negotiator, I recall very definitely. That hasn't been so very long ago.

Mr. Hunt usually prefaced, when he wanted to give you a figure of what he thought was a good price they should get for their 49 per cent stock interest—he just had the habit of prefacing his remarks by reminding me that he was a corporate official of long standing and had carried on a great many negotiations, and I probably hadn't, as he put it, and the whole import was that I should take his evaluations, because he made them, and because he was Mr. Hunt, with [fols. 4090-4093] this background, and so on, and I didn't quite believe that. At least, I didn't accept it.

But it made the negotiation very difficult because he was holding out for a very high figure. We just had to stop negotiating for a few periods in there until somebody could come up with a possible new idea which might help to resolve the situation.

Q. Was the final figure, Mr. Daley, one that was up front your original offer, and down from theirs, or did you finally take theirs?

A. It was. They reduced their figure gradually, and we upped ours gradually until we got to a common meeting ground. I would say it took ten months.

Q. Did you, or Mr. Ford, ever urge du Pont stock ownership in General Motors as a basis for giving you a preferential position in the purchase of Kinetic?

A. No, indeed, that point never came up in our discussions.

Q. During the negotiations, Mr. Daley, did General Motors ever express any interest in purchasing du Pont's 51 per cent?

No, that never came up. They never indicated they were in any way interested in buying.

Q. One final question, Mr. Daley:

Do you know whether today any manufacturer of domestic or household refrigerators uses F-114 as a refrigerant?

A. No, they do not. F-114 would not be used in household refrigerators. It is not used.

Cross-examination.

By Mr. Harris:

[fols. 4094-4097] Mr. Harris: We offer in evidence the answer of the du Pont Company in answer to our Inter-

rogatory No. 7(a) which answer was filed on March 7, 1952, and with your Honor's permission we will make copies of the answer and submit it to the Court and counsel.

Mr. Horsky: I have no objection.

Mr. Harris: That will be No. 1314, your Honor.

(Said document so offered and received in evidence was marked Government's Trial Exhibit No. 1314.)

[fol. 4098] Q. My question is now, do you know, or have you been told how du Pont got the customers that belonged to Ethyl in 1948?

A. Have I been told how they got them?

Q. Yes, sir.

A. Well, I had been told, let us say, in a general way.

Q. Perhaps you will tell us.

A. I have been told that they called on the customers. They stressed the value to the customers of having two sources of supply. They stressed friendship with people in certain accounts, people whom they happened to know, and won't you give me a little business, sort of approach, and I understand some of them did, and they stressed the potential of having du Pont as a supplier, and emphasized du Pont's general acknowledged technical ability, or at least they acknowledged it to themselves, and thought that du [fol. 4099] Pont was going to reach a point in the industry where they could make valuable technical contributions, and thought that they should be encouraged in the business.

Now, there were such angles as those I am told that were used in the selling.

Q. Were you told the principal consideration for the Ethyl customers to come to the du Pont Company was to obtain a second source of supply?

A. I don't know that I was told it was the principal one. I was told it was an important one.

Q. Now, by the way, what company is known as the E.S.S.O. Company? What company is that?

A. That would be the Standard of New Jersey?

Q. Standard Oil of New Jersey?

A. Yes, sir.

Q. The Esso Company?

A. Now, wait a minute—

Q. Just take your time.

A. They have got two or three names in Standard of New Jersey.

Then I believe there is Esso Standard.

Q. Esso Standard Oil Company?

A. Yes. I think that is a subsidiary of the parent company, Standard Oil of New Jersey.

Q. Is that the Standard Oil of New Jersey which owns half of the Ethyl stock?

A. I would say so, yes.

Q. Would you tell us how you got the Esso Standard Oil Company to buy 14,359,295.2 pounds of tetraethyl lead from du Pont?

A. I don't know that I could tell you how they got it. We accepted it with great gratitude.

Q. Yes, of course.

A. It was a very nice piece of business. I might throw a little light on this, if you wish.

Q. Please.

A. We very recently lost some "Freon" business that we had with Standard Oil of New Jersey. I say very recently. [fol. 4100] I mean the current year, because they told our salesmen of their express policy to try to have two sources of supply, and they gave some of the business which they had previously favored us with to a new supplier in the field.

Q. Well, if I understand your answer, are you telling us that it is your belief that ESSO—Standard Oil, which is Standard Oil of New Jersey, bought this tetraethyl lead from du Pont because it wanted a second source of supply to Ethyl which it half owned?

A. That is the only reason that I have heard expressed by the people working for me. I haven't had the first-hand contact with them.

Q. Do you know who, if anyone, got in touch with the Esso Company before they started giving orders to you after the separation of Ethyl?

A. I have heard that story. I am pretty sure it was Mr. Ray Miller.

Q. Mr. who?

A. Mr. Ray Miller.

Q. How many units were in operation in the Deepwater plant at the time of the separation?

A. The Deepwater Plant at the time of the separation.

was composed of four units. Of those four units, two were in active condition for complete operation. The remaining two units were being held in standby condition.

Q. Now, were you able to furnish the demands or the requirements of your customers during 1948 from your existing facilities?

A. Yes, sir.

Q. You were?

A. Yes.

Q. When did you increase, if you did, your facilities?

A. Well, I would have to look at the record there. The two units which were being actively used through 1948 would have had a capacity of, oh, say, 70 to 75 million pounds.

[fol. 4101] So that the minute we got up in that range of production, we would have to start a third unit into operation.

Q. Did you ever purchase any tetraethyl lead from Ethyl?

A. Not that I know of.

Q. Would you know?

A. I think I would know definitely since June, 1948.

Q. And you have no recollection of any such?

A. No, none whatsoever.

Q. All right. When did you start, if you did start, increasing your facilities?

A. Well, I would say we started in 1949.

Q. And in 1949, at the end of 1949, what number of units in operation did you have?

A. Well, if our sales at that time were not above, say, 105 to 110 million pounds, we had three.

Q. Now, in 1950, what is the story?

A. 1950? Again depending upon what sales level we happened to hit during that year, we would have had either three or four units in operation.

Q. Now, are the units—well, perhaps you will tell me now. How many units are in operation at Deepwater now?

A. All four of the original units are in operation.

Q. And?

A. And a fifth unit which we have subsequently built.

Q. When did you build it?

A. It was finished toward the end of 1952.

Q. How many units has Ethyl in operation, if you know?

A. I have no idea.

Q. You have no idea?

A. That is right.

Q. Not for any of these years?

A. I couldn't give you any accurate information as to how [fol. 4102-4109] many units Ethyl has or had. I know that when the separation was made, I was told that we were left with four units total available, and that Ethyl had five units.

Q. Yes. Do you know if it has any more?

A. Oh, Ethyl has made subsequent additions. At what rate they made the additions, and in what years they made the additions, I wouldn't know exactly, except for the most recent one to which they gave a great deal of publicity, when they constructed their entire self-contained new facilities near Houston on that ship canal down there.

Q. Yes.

A. I think they have rather widely advertised it as having 90 million pounds capacity.

Q. What is the capacity of these units that you are talking about per annum?

A. About 36 million pounds per year, each.

[fol. 4110] OFFERS IN EVIDENCE (DU PONT)

Mr. Horsky: Before we pass to another topic, there is one last matter. I would like to introduce a few exhibits. The government adduced in further support of the charges made in Paragraph 64 which relate to the "division of fields," a series of documents relating to what might be called the general research contract whereby du Pont unsuccessfully attempted to obtain a contract with General Motors to that effect.

I should like to complete the documentary story. It will not require any testimony. The documents I am going to refer to are in the last part of that book I handed to your Honor yesterday, if you care to find them there.

The Court: In the file, you mean?

Mr. Horsky: No, in the large book called "Harrington." There is a tab at the back that says "General Research Contract." It is the last thing in the book, I think.

The first document, chronologically, in this story is a letter which is Government's Trial Exhibit No. 599 from

Mr. Zimmerschied to Dr. Stine of du Pont, dated October 28, 1919. In it Mr. Zimmerschied refers to a meeting which had been held in New York relating to some work that du Pont was to do for General Motors in connection with fuel research, and the last paragraph, which is the beginning of the story, really, says:

"It is presumed that the marketing of this chemical"—

which was to be discovered and then added to gasoline—

[fol. 411] "will be a matter of interest to the du Pont organization, and that the expense of developing it will be borne by your Research Department. We are glad to lend the mechanical equipment indicated above without charge for the purpose of this investigation."

The answer to that letter I should like to offer as du Pont Exhibit No. 154, which is a letter from Mr. Stine, chemical director, to Mr. Haskell of the General Motors, and it refers to the letter which I have just noted.

The last paragraph of that letter—the first paragraph says that du Pont will be glad to undertake the work—and the last paragraph on the second page states:

"In connection with Mr. Zimmerschied's letter, I note the suggestion that the expense of developing some chemical which may be added to liquid fuel for the purpose of utilizing undesirable fuels in Internal Combustion Engines should be borne by the du Pont Company. As we have no funds available for research work of this character, it will be necessary to obtain an appropriation from some source for this work. Insofar as the question of the ultimate distribution of the expense of such research work is concerned, it seems to me that this can only be decided on the basis of the results of the work, since it is obvious that if the General Motors Corporation derives more benefit from such research than does the du Pont Company, the General Motors, rather than the du Pont Company, should ultimately take up the expenditures for work of this character."

[fol. 4112] That letter is dated November 4th, 1919.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 154.)

Mr. Horsky: About two months later, on January 12th, Government's Trial Exhibit No. 558 shows that the matter was considered by the Executive Committee of the du Pont Company. This is an Advice of Action of the meeting of January 12th, 1920, and in the middle of that paragraph it states, after having acknowledged the receipt of the report from the Chemical Director:

"* * * the Chemical Department be authorized to continue with the work for the General Motors Corporation always provided that the full expense for such work will be borne by the General Motors Corporation."

That was the first solution that was proposed.

Then the matter goes along for three months, and the next document we have is April, 1920. This is Government's Trial Exhibit No. 575, dated April 22, 1920, and it is a report which has been referred to before, of a meeting between or among a number of persons, Mr. Raskob, Mr. Kettering, Mr. Irenee du Pont and Dr. Reese, and other du Pont representatives, and at which Mr. Raskob proposes the basis of a permanent arrangement to take care of this problem.

In Paragraph No. 2, on page 1 of the exhibit, part of the suggestion is:

"General Motors will be free to call upon du Pont Chemical Department for any advice or work that [fol. 4113] General Motors desires du Pont to undertake. When so called upon, du Pont is obliged to undertake the work."

Then on page 2 and page 3 are given the details of the arrangement which, without reading them, are that any request be grouped into two categories, group 1 being those which will influence the operations of General Motors particularly and group 2 being those that might result in the production of a new product, either by General Motors, by du Pont or by someone else, and again over in Para-

graphs 8 and 9 on page 3, in the case of the first category, a particular formula for compensation is prescribed, and in the case of the second category which may result in new products, it is provided that du Pont and General Motors should each have a half interest in any development, and that the expense of the work shall be borne by General Motors but without any profit to du Pont.

Then Paragraph 11 provides:

"This agreement will be subject to cancellation by either party without notice with respect to work undertaken in future, but cannot be revoked by either party with respect to work previously taken up."

The results of this meeting were reported, as this letter indicates, to the Executive Committee on April 22, 1920. In fact, this document is a report to the Executive Committee.

That is April 22nd, and on May 4th, which is about a week later, the Executive Committee considered it, and I should like to offer du Pont Exhibit No. 155, which is the advice of action of the du Pont Executive Committee on that report.

[fol. 4114] (Said document, so offered and received in evidence, was marked du Pont Exhibit No. 155.)

Mr. Horsky: It refers to the report of April 22, which is Government's Trial Exhibit No. 575, and then states:

"It was moved and unanimously carried that this report be accepted and ordered filed, and that the proposed method of handling chemical work for the General Motors Corporation be approved in principle, with the understanding that the final agreement will be submitted to this committee for approval before execution."

As a result of that action on May 4, Mr. Lammot du Pont gave instructions to Dr. Reese, which is contained in du Pont Exhibit No. 156 which I should like to offer, and it is dated the same day and is the memorandum to Dr. Reese from Mr. du Pont.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 156.)

Mr. Horsky: Du Pont Exhibit No. 156 states:

"I enclose herewith copy of my report, April 22d, to the Executive Committee (No. 2900); which was approved in principle by the Executive Committee yesterday, with the further provision that any definite agreement executed with General Motors Corporation be finally submitted for approval.

"You will note the correction at the end of the second line of the second paragraph of this report. This [fol. 4115] was not in the report when submitted to the Executive Committee, but was added afterwards at the suggestion of Mr. Irene du Pont. If and when it seems desirable to make a definite agreement with General Motors, will you please proceed, as far as possible, in accordance with this report and submit the agreement for approval of the Executive Committee before execution?"

The correction at the end of the second line of the second paragraph of the report which was noted in du Pont Exhibit 156 is not contained in Government Trial Exhibit 575, but it is contained in Government Trial Exhibit No. 576, which is dated the same day as the meeting of the Executive Committee.

Mr. Irene du Pont there suggests in a note to Mr. Lamot du Pont:

"Think it would be well to insert at the end of the second line of the second paragraph—'which does not encroach on du Pont Company's business' in order to make perfectly clear that we would not of necessity undertake work for them to put them in a business which we already occupy."

On June 15, Government's Trial Exhibit No. 580, the Chairman of the Executive Committee, Mr. Lamot du Pont, submits to the Executive Committee a proposed draft of agreement, which is the formal statement of proposal contained in Mr. Raskob's memorandum—I mean the suggestion of Mr. Raskob—and also contains the changes that have been suggested.

The change recommended by Mr. Irene du Pont is con-

[fol. 4116] tained on page 3; and it is the proviso which is added to paragraph First, which simply says:

"Provided, however, that work on such problems shall at no time be permitted to interfere with work on du Pont Company's own chemical problems."

Then it sets out this division into Group I and Group II. At the end, in the last paragraph numbered Ninth, on page 7, the termination provisions are carried over as originally stated:

"Either party hereto may terminate this agreement at any time by giving to the other written notice of its intention so to do; and after such termination, both parties shall be relieved from all obligation or liability hereunder except as to obligations or liabilities assumed or accrued prior to the date of such termination and except that such termination shall in no way affect any of the property rights which have accrued prior to such termination."

This is on June 15 when the report was submitted to the Executive Committee. On June 22nd, it was approved by the Executive Committee.

I should like to offer du Pont Exhibit No. 157, which is an excerpt from the minutes of the Executive Committee meeting of that date.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 157.)

Mr. Horsky: This states:

"Resolved, that the form of proposed agreement between General Motors Corporation and the Chemical Department of this Company, as submitted with the Chairman's letter of June 15, 1920 (#3220), be and the same is hereby approved and the President or any Vice-President of this Company together with the Secretary or an Assistant Secretary be and they are hereby authorized to execute said agreement on behalf of this Company."

That is June 22, 1920. The next I have which relates to this is a letter dated October 10, 1921, which is about fifteen months later. It is a letter from Mr. Lamot du Pont to Mr. Kettering, Government's Trial Exhibit No. 581. It shows what has happened in the meanwhile:

"On June 22, 1920, the Executive Committee of du Pont Company approved a proposed agreement between General Motors and du Pont Company, covering chemical investigation done by du Pont Company for General Motors, and providing how the charges should be paid and how the rights to any inventions developed might be apportioned between the two companies.

"As stated above, this agreement was approved by the du Pont Executive Committee, and the Chemical Department—which at that time was reporting to me as Chairman of the Executive Committee—took up with you, representing General Motors Corporation, the approval of the agreement on General Motors part. The Chemical Department call my attention to the fact that General Motors has never approved this agreement and it has not been executed. I further understand that a copy of the agreement was sent you and that, at least recently, your approval has not been secured [fol. 4118] cured, nor, have you mentioned any specific objection to the proposed form of agreement.

"It appears to me desirable that this question should be settled and definite agreement between the companies executed. It would be preferable, in my opinion, if this were accomplished through the channels designated; namely, between you and our Chemical Department. However, if there is anything I can personally do to assist I would be glad if you would call on me."

That is dated October 10, 1921. Then at about that time, and in the next few weeks, there follows an exchange of correspondence between Mr. Kettering and Mr. Lamot du Pont, in October and November. These are Government's Trial Exhibits Nos. 582, 583 and 584.

In the second one, Government's Exhibit No. 583, Mr. du Pont states his understanding of why he wanted to have this agreement.

He acknowledges a letter from Mr. Kettering and says:

"I have yours of October 21st in regard to agreement between General Motors and du Pont with respect to chemical experimental work.

"It seems that the du Pont Company's position in this matter and the object of the contract has not been made clear, or else we have a misunderstanding of what we are expected to do for General Motors under present conditions.

"Our understanding of present conditions is that we are expected to take up experimental chemical work for the General Motors Corporation when requested. [fol. 4119] We have taken up such work from time to time and have consulted and advised from time to time.

"At present we have no definite authority for doing this and have no mutually-agreed upon basis of charging for the work or dividing the results in the shape of rights. The purpose of the agreement is to give the du Pont Company definite authority and a basis for charging, and either reserving or turning over to General Motors any rights that may be developed. It seems to me that this purpose must be accomplished regardless of what arrangement is made with respect to any of the work, and that, therefore, the agreement should be executed at once."

Then I should like to refer to General Motors Exhibit No. 246, which is a letter from Lamot du Pont to Mr. Kettering in November, 1921.

This is the end of this particular series of exchanges at this time.

In it Mr. du Pont makes it clear that this agreement has nothing to do with the fuel work which was going on.

He acknowledges the letter from Mr. Kettering on November 5, and then says:

"It appears to me that we are talking about different things. My principal interest is in seeing a general agreement whereby any kind of experimental chemical work can be undertaken by du Pont Company for General Motors without having to make up a special agreement on each subject."

Skipping a sentence:

"You, I believe, are talking about the agreement with respect to work on motor fuel, and I agree that [fol. 4120] good progress is being made on this, but even if that agreement is drawn up and executed, it leaves the general agreement just where it was before."

That is November 19, 1921, and that concludes that particular exchange.

The matter then lapsed until early in 1922. I should like to offer du Pont Exhibit No. 158 to show how it came to life again.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 158.)

Mr. Horsky: This is a note from Mr. Fisher, the secretary of the Executive Committee, to Mr. H. F. Brown, vice-president of du Pont, dated March 24, 1922:

"In accordance with your request at the last Executive Committee meeting, this merely to remind you to look up the present status of the proposed agreement between this Company and the General Motors Corporation with reference to chemical work."

Presumably sometime just prior to that date it had come up in the Executive Committee.

Following that suggestion, there is another exchange of correspondence which goes over another series of documents. These are Government's Trial Exhibits No. 589, 590, 591, 592 and 593, again between Mr. Lammot du Pont and Mr. Kettering.

In the first one, which is Exhibit No. 589, dated March 27, 1922—three days after this note from Mr. Fisher to Mr. [fol. 4121] Brown—Mr. du Pont again states the history of the delay and he ends up on the last page by saying:

"Is there anything I can do to insure a mutually satisfactory contract being drafted and executed?"

Mr. Kettering made, I think it could be called a non-committal reply, and on April 1st, Mr. du Pont again reviews what he thinks the problem is, and in the last para-

graph of his letter says, and I think this makes his position clear:

"The only reason I can see for not doing so is the decision by General Motors to establish their own chemical staff. If you have come to this conclusion, I have no objection as a representative of the du Pont Company, and have nothing more to say."

Then Mr. Kettering again replies in which he says he thinks that the du Pont Company can be helpful. On page 2 of Government Trial Exhibit 592, which is a letter from Mr. Kettering to Mr. Lamot du Pont on April 3, 1922, he says:

"There has never been any question in my mind but that the du Pont organization could supplement the work of our laboratory to a tremendous degree and it has always been my desire that this should be done, but we have never been quite able to couple up, even though we attempted, at one time, as you know, to get such an agreement through."

In response to that, in Government Trial Exhibit No. 593, Mr. Lamot du Pont again states why he thinks this [fol. 4122] agreement is important on the over-all basis. He says, in the last two paragraphs:

"You will note that this contract does not refer to any specific problem: the fuel problem or any other, but provides a basis of handling any problems that may arise in the future, and applies only when, and if, General Motors requests the du Pont Company to take up any work, so that after the contract is signed, control of the work is entirely in your hands."

"Won't you consider this matter entirely from the standpoint of the future? and advise me whether you do not approve executing a contract to accomplish the purposes we desire to accomplish, stating in what respects the contract enclosed is unsatisfactory and how it may be modified to make it satisfactory."

This is April 14, 1922.

Immediately thereafter, or the next month, Mr. Kettering washes his hands of the matter. In Government Trial Exhibits 594 and 595 are contained the correspondence in

which he informs Mr. Lammot du Pont that he has turned the whole matter over to the president of General Motors who, at that time, was Mr. Pierre du Pont.

This took Mr. Lammot du Pont by surprise. I should like to offer du Pont Exhibit No. 159, which is his note to Mr.

H. F. Brown, referred to earlier, commenting on these letters.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 159.)

[fol. 4123] Mr. Horsky: This is a short note dated May 10, 1922. It says:

"Please note the attached for your information. It seems to me a most remarkable position for the Head of the Research Corporation to take."

Then the final episode in the whole matter is in Government's Trial Exhibit No. 598, when the agreement was finally and conclusively rejected by General Motors, notwithstanding Mr. Lammot du Pont's entreaties. This is a memorandum for the files by Lammot du Pont, and it says:

"In conversation with Mr. P. S. du Pont he advised that it does not seem possible at this time to institute any plan for co-operation on chemical research work between General Motors Corporation, his feeling being that, as problems come up, special arrangements with reference to each should be made between the two Companies, rather than attempt now to make a general arrangement to cover prospective cases."

[fol. 4124] RALPH J. WIRSHING, called as a witness on behalf of the Defendants, having been first duly sworn, was examined and testified as follows:

Direct examination

By Mr. Hurd:

Q. Will you please give us your full name, Mr. Wirshing?

A. Ralph J. Wirshing.

Q. Where do you live?

A. Detroit, Michigan.

Q. By whom are you employed?

A. The Research Laboratories Division of General Motors Corporation.

Q. Mr. Wirshing, where did you receive your college education?

A. I graduated from the University of Dayton in 1916 with a degree of Bachelor in Chemical Engineering.

Q. What was your first employment?

A. After graduation, I worked for two years for the Southern Chemical Laboratories in Chattanooga, Tennessee, as an analytical chemist.

Q. Following that, what employment did you have?

A. Following that, I went to work for Mr. Kettering in the Research Division of the Dayton Metal Products Company in Dayton, Ohio.

Q. How long did you remain with the Dayton Metal Products Company?

A. The Dayton Metal Products Company was taken over by General Motors a few years after I joined the Dayton Metal Products, and I stayed there until 1923 when I went to the Ternstedt Manufacturing Company.

[fol. 4125] Q. Then you were employed in Mr. Kettering's organization until it was taken over by General Motors?

A. That is correct.

Q. And then you continued on with General Motors until 1923?

A. That is right.

Q. When did you return from Ternstedt?

A. I worked for Ternstedt until January of 1925, then I went back to the Research Division of General Motors.

Q. How long did you remain with the General Motors at that time?

A. I am still there.

Q. You have been there continuously since 1925?

A. Yes, sir.

Q. What, in general, has been the nature of your work with General Motors since 1925?

A. I have been connected with what they call the Chemistry Department. In the beginning, I was working as an

analytical chemist, and in 1934 I became assistant head of the department and in 1944, became head of the department.

Q. Has that department had anything to do with the matter of automobile finishes?

A. Yes, sir.

Q. What has it had to do with that?

A. We had examined and tested all paints and finishes that are used in painting automobiles or parts that go into automobiles.

Q. When had that work been done?

A. It was started around 1920 or 1921, and it has continued right up to the present time and is still being continued.

Q. Then it has been a continuous work of the Research Department?

A. That is correct.

Q. Are you acquainted with the type of automobile finish that was used by General Motors in 1925 when you started this work?

A. Yes, sir.

[fol. 4126] Q. What was that?

A. Since 1925 we have used a nitrocellulose lacquer for the outside of cars.

Q. Do you recall whose make of lacquer was in use by General Motors in the year 1925?

A. In 1925, the du Pont Company's lacquer.

Q. Is that known as "Duco"?

A. That is known as "Duco".

Q. Were you testing any other kind of lacquers other than "Duco" in 1925 and 1926?

A. Yes, sir. We tested many companies' makes of lacquers at that time.

Q. When, if ever, did your department approve of the lacquers made by competitors of du Pont?

A. Of course, I might say that we do not approve. That is not quite the right word. Our work consists of making examinations and tests and presenting the evidence of those tests to our various divisions, comparing them always with what they are using in production at the time the test is made.

Whether they may take our results and examine them, and take them as an approval, we never ask for approval.

We simply present the evidence we find as the result of our tests.

Now, along about the latter part of 1926 and 1927, we began to find other companies' materials of the lacquer type which were equivalent to what we were using at that time, which was du Pont's "Duco".

Q. Do you know whether or not any of the divisions adopted any of these lacquers made by competitors of du Pont in the latter part of the '20's?

A. Yes, sir.

Q. Did they or did they not?

A. They did.

Q. Take Fisher Body. Do you recall whether or not they adopted any lacquers other than the du Pont in the [fol. 4127] latter part of the '20's?

A. Yes, sir, they used lacquers made by Rinshed-Mason, and the Forbes Varnish Company, and the Jones-Dabney Company.

The lacquers made by these companies were used beginning about that time.

Q. Did they also use "Duco," do you know?

A. Oh, yes, they continued to use "Duco."

Q. How long did they continue to use the lacquers of these four suppliers?

A. They used the Jones-Dabney lacquer only for two or three years. The Jones-Dabney material was dropped because the other three suppliers, du Pont, Rinshed-Mason and Forbes, improved their material so that it was considerably better than that of Jones-Dabney, than they were able to furnish at that time, so Jones-Dabney materials were dropped.

Q. How about the other three?

A. The other three were continued.

Q. For how long?

A. They are still using them.

Q. What did Fisher Body use for its undercoating?

A. For the most part, Fisher Body used the Rinshed-Mason materials.

Q. How long has that been true?

A. That has been going on since 1925, or thereabouts.

Q. What about Chevrolet, what have they used throughout the years?

A. Chevrolet has used practically all du Pont materials throughout the years.

Q. Are you referring to the top finish or the undercoats, or both?

A. Both.

Q. Do you know what the basis is for their having used the du Pont?

A. Well, the Chevrolet plant originally was located in Flint, Michigan, and they were buying paint from the Flint [fol. 4128] Varnish Company which was located close by. The plant of the Flint Varnish Company was later on absorbed by du Pont, but in the meantime good relationship had been built up between the personnel of these two companies, and they continued to use that material.

Chevrolet then expanded, and began to build plants throughout the country in widely scattered areas, and the du Pont Company followed suit so that they could take care of Chevrolet's needs quickly.

They also had a very good service department which kept Chevrolet out of trouble. You always depend on your suppliers for service. They are a great help to you when you get into problems, and if they can come quickly and help you in these problems, you appreciate it.

Q. Do you know what the basis is for the use of the same undercoating from the same supplier as the top finish?

A. Chevrolet has always felt, or I should say they worked on the theory if you are painting an automobile, and you are using one company's materials from the metal out, then there is no cause for argument as to whose fault any troubles might be.

In other words, if they would use one company's undercoat and another company's top coat, if trouble came up, they would not know which of these companies to blame, and if you use one company's material, you do not get into these arguments.

Q. Do you know what the situation has been at Oldsmobile?

A. Oldsmobile has used the Rinshed-Mason materials, top coats, that is, for many, many years.

Q. About when did they start?

A. Probably 1926 or 1927, along about that time.

Q. Do you know what the occasion was for their going [fol. 4129] to Rinshed-Mason?

A. Well, at one time, they desired to use some different colors of a type that du Pont explained they could make, but they did not feel that they were quite as durable as the regular line of colors. Oldsmobile insisted on having these particular colors, and they asked Rinshed-Mason to make them. Rinshed-Mason came up also with the explanation that they did not think that they were quite as durable, but that they would make them. Du Pont refused to make them because they were not quite as durable as their regular line, and Rinshed-Mason said they were not as good, but if you want them, we will make them.

As a result, they began buying from Rinshed-Mason.

Q. This happened in the late twenties?

A. Yes, sir.

Q. And they continued with Rinshed-Mason ever since?

A. Yes, sir.

Q. Is Rinshed-Mason still the supplier of the top material?

A. Yes, sir.

Q. How about the under-coats of Oldsmobile?

A. The Oldsmobile buys their under coating from the Forbes Varnish Company. They got into that when they used what they called the dip primer, that is instead of spraying the paint, you take a large tank, and you dip the fenders and hoods into this paint. It is a rapid expedient, so that they requested these dip primers, and both du Pont and Forbes submitted dip primers.

They worked, they both worked, but du Pont was a little afraid that due to the large expense of the paint material, which is exposed to the air, when you use these large tanks, they were a little afraid of oxygen being taken up from the air that would cause a jelling of this primer in these large tanks.

[fol. 4130] Forbes gave Oldsmobile assurances that their material would not jell in the tank, and for that reason, they took the Forbes material and had been using it ever since.

Q. Now, what does Pontiac use for its finishes?

A. Pontiac uses all du Pont material, almost exclusively.

Q. Is that true both of top-coats and undercoats?

A. No, undercoats, they do buy some undercoats from the Pontiac Varnish Company, and have used it from vari-

ous people from time to time, but principally it is du Pont material.

Q. Do you know what the basis has been for their using du Pont?

A. There, again, they were close to the Flint plant, and got quick service from du Pont. Du Pont has a service man who stays right in Pontiac and gives them very quick service on all their problems.

Q. In the middle twenties, was Pontiac producing Pontiac, or was it Oakland that they were producing, or both?

A. Along in the middle twenties, they had a car which they called the Oakland, which was not going too well, and they were the first ones to adopt the lacquer of "Duco" for the top coating, and it did them so much good to come out with such a superior finish, that is, a finish so much better than they had been using, that that is another reason why they have continued to use the du Pont material over the years.

Q. And do you know what Cadillac has used throughout the years?

A. Cadillac uses Rinshed-Mason materials for top materials.

Q. How long have they been doing that?

A. Since the '20's. The reason for their using Rinshed-Mason materials almost exclusively is because the Rinshed-Mason plant is practically in their back yard, and all they do [fol. 4131] is just walk across the railroad tracks and they are in each other's plant, and there, again, the service angle enters into this thing.

Q. What does Cadillac use as a supplier for the undercoats?

A. Their undercoats have been purchased from a number of different companies, Rinshed-Mason, Ferbert-Schorn-dorfer, and a number of different paint companies.

Q. Has there been any principal supplier of undercoats for Cadillac?

A. I don't think you could call any of them a principal supplier. The change has been made so many times.

Q. Now, with respect to Buick, what do they use on their finish?

A. Buick has used du Pont materials almost exclusively and there, again, the close proximity of the du Pont plant

being just across the street from Buick, that enters into the picture again.

Q. Do they use it for their undercoats also?

A. Yes, sir, they use du Pont undercoats.

Q. They use du Pont for both the top-coats and undercoats also?

A. Yes, sir.

Q. And they have throughout the years?

A. Yes, sir.

Q. Now, Mr. Wirshing, you have referred to having made tests of automobile finishes throughout the years. Would you tell us in general what these tests consist of?

A. Well, testing of automotive finishes becomes a very complicated problem. We receive samples of materials either from our suppliers, from other paint companies, or from someone in any one of our divisions, or we may even in scanning literature come across a reference to a material which we think might be of some help to us, and we request a sample direct from the company making it. [fol. 4132] After the samples are received, it is necessary to arrive at some idea as to where it might be used to advantage in the painting of our cars. When we have decided that, then the next problem is to get a sample of material which we think this new material might replace, and that is the sample of material that is being used in production and which we think the new material might replace, and then you begin to compare the two.

Generally the comparison starts by preparing test panels. These test panels are about four inches by twelve inches in size, and they are prepared as nearly as possible in a manner in which they would be prepared in production. That is, if the paint material is to be used over a phosphate coated steel panel, then our test panels would be phosphate coated before the test is started.

The first test is always to prepare the panels and expose them out of doors, generally in our test field in Miami, Florida. Then other panels are made and they are subjected to high humidity and high temperature in order to ascertain their resistance to blistering under high humidity conditions.

They are chilled to zero degrees Fahrenheit, and then bent quickly over a mandrel. That is a test for the adhe-

sion of the material. They are subjected to salt spray tests and subjected to hardness tests, and also to resistance to thermal shock. Some finishes will crack if the temperature is suddenly changed either from cold to hot, or from hot to cold. That can happen, for example, on a very cold day and a man drives his car into a wash rack and they throw warm water on it very quickly. All of these tests have to be made to determine whether or not the material [fol. 4133] which we are examining has any advantages over what we have been using, bearing in mind that we always test against the material that is being used in production at the time we are making the tests of these materials.

Q. Do you use the ultra violet light test?

A. We used to depend upon the ultra violet test as an accelerated method of determining a resistance to dulling and cracking. However, we have found that that test is not reliable enough for us.

In other words, we can pick out, by that ultra violet light test, materials which are bad; in other words, anything that fails under there doesn't stand up outdoors. However, sometimes just the reverse is true, and therefore since we cannot depend upon it, we use our Florida test fields practically entirely for our test.

Q. If you find material that looks promising, what do you do about it?

A. We refer the materials and the results of the test to the men in the divisions whose job it is to paint the cars, and then it is up to them as to whether further testing is going to be carried on. If it is, then we continue with them.

Q. What does that further testing consist of?

A. Well, usually it consists first of painting maybe two or three cars, and maybe only two or three sets of fenders and hoods. That is to find out whether or not in the plant and under the conditions which the work has to be carried through, that is the temperature and the time that is allotted for curing the finish, to find out whether it will work under those conditions that exist.

After they find that out, if it worked well on two or three or five cars, then maybe a little while after that, [fol. 4134] maybe ten more jobs will be tried. After that maybe one hundred, and then that one hundred jobs might be distributed over the country to service people.

That is all sections of the country from the State of Washington to Florida, and from California to Maine, and every month the service man has to report on the condition of that finish. That is carried on for a year before any decision is made as to whether the material is going to be used.

Q. Have you ever, in the course of your experiments, found a material that you considered appeared to be better than the materials being used by the divisions?

A. Oh, yes.

Q. Can you give us any illustrations of those?

A. Well, back in the early 1930's, du Pont came up with a new lacquer which they called high solids materials. Now, it had the advantage of using less thinner for thinning it to spraying viscosity. That enabled us to spray the required film thickness on the car in fewer spray operations. That meant a money saving. We tried the material at the Chevrolet plant in Flint, and it worked, and was adopted for production.

Shortly after that, of course, the other suppliers, seeing what was going on, came up with the material that was just the same.

We got the same advantage. We tried their materials out, and if they worked they were adopted for production. Sometime about the middle thirties, du Pont came up with a material they called an anti-chalk lacquer. Now, chalking is a material which we use to indicate dulling of the finish, and [fol. 4135] that material had better lustre retention than our regular material that we were using in production at that time. That is, we proved that by our exposure panels.

Then we went to the Atlanta plant of Chevrolet and tried it on jobs there, and it worked satisfactorily and it was adopted. As before, it was not very long before our other suppliers had come up with a similar type of material, tested in through the same manner, and adopted it.

A few years ago Fisher Body presented to us a black lacquer made by Acme. We completed our test on that, and reported that it was not quite as good in lustre retention as the black they were using in production at that time. In spite of that, they put it in production, and it ran for awhile, but they soon discovered that the black's polishing properties, in other words, they could not polish it to as high a lustre as you could the black they had been using.

Not so long ago Forbes Varnish Company came to us with the material which they call "High Lustre Lacquer." It had the property of having a higher lustre when it was sprayed. As soon as it was dry, it had a higher lustre than the material we were using. That would enable us to do less polishing and would be a labor saving. We tested the materials on panels in the usual manner, and we found that not only did it have a higher lustre as it was sprayed, but it retained its lustre a little better than the material we were using.

About that time apparently Forbes discovered the same thing, and they came rushing to us and said, "Well, here is a little extra dividend for you, and it not only has a higher lustre when it is sprayed, and doesn't have to be polished so much, but it holds its lustre better than the other material."

[fol. 4136] The other suppliers, du Pont and Rinshed-Mason heard about this material.

Q. Did they hear about it from you?

A. No, sir. Du Pont came in with the material which sprayed with a higher lustre. Rinshed-Mason refused to make that type of material saying they didn't believe that it was durable; that they thought we would get into trouble if we used it.

However, our tests at first showed that the material, after it had been weathered for some time, was a little more subject to this thermal cracking, which I mentioned a short time ago.

Both du Pont and Forbes changed their formulation somewhat to overcome this difficulty of cracking after exposure. We painted approximately 200 cars with these two materials, and put them out, as I mentioned before, all over the country, and watched them for a year.

No trouble developed. Beginning with the 1953 production, Fisher Body and Chevrolet decided to paint a certain type commercial vehicle, which we called the "Pie Wagon," in one color with the Forbes high lustre lacquers, and in another color with the du Pont high lustre lacquers.

Now, that means that we will paint, only, maybe, ten jobs a week for the entire year to learn more and more about this material, and then we will also know that any complaints that come in on "Pie Wagons" that are painted one color, they will be du Pont material entirely, and

with another color, they will be Forbes material entirely. So we can decide which is the better material, or if they are either one good enough to go into higher production. [fol. 4137] Q. Is that testing procedure unusual?

A. No, sir.

Q. As far as General Motors is concerned?

A. No, sir.

Q. Have you tested paints from manufacturers other than the three suppliers you are referring to?

A. We are continually testing paints, wherever we can get them. If anybody has an idea that they have a paint that will be better than what we are using, we test them.

Q. Have you ever found a supplier with a substantial line of colors that seemed to be better than the three suppliers of General Motors at the present time?

A. Nobody has given us a line of materials which showed enough advantages to make it worth while changing.

Q. How many tests have you made throughout the years, these test panels?

A. Well, we have made literally thousands of test panels and tens of thousands of tests.

Q. How many tests do you have going on today?

A. Well, just as an example, at our test field in Miami, we have over 5,000 panels on exposure at the present time.

Q. Is that unusual?

A. No, sir.

Q. Mr. Wirshing, in the course of your work with the testing of the automobile finishes, have you ever been advised or heard that it was the policy of General Motors to use du Pont as a supplier of automobile finishes?

A. No, sir.

Q. Or that du Pont was supposed to be favored as a supplier?

A. No, sir.

Q. Have you ever favored du Pont in any respect?

A. No, sir.

Mr. Hurd: You may cross examine.

[fols. 4138-4139] Cross examination

By Mr. Harsha:

[fol. 4140] Q. You have given testimony indicating that various car units of GM have purchased from a number of sources that you have named. Are you basing your testimony upon your general recollection at the present time as to what had been those sources over the years?

A. Well, as I tried to point out to you, it has always been our policy, and we always use the material that they are using in production now as a control at the time we are testing a new material.

Therefore, it has always been necessary for me to find out what the division is using at that time, you see.

Q. Yes. Now, how do you know whether a particular car division is using, for example, more of du Pont paint than, say, Rinshed-Mason?

A. I don't know that.

Q. You don't know that?

A. No, sir.

Q. You don't have any idea as to what the relative proportion, for example, is that any car division is using of two types of makes of paint, is that right?

A. No, sir, I do not.

Q. All you know is that there is some quantity unknown Rinshed-Mason paint being used by this particular car division?

A. Correct.

Q. And that there is some quantity unknown of du Pont paint being used by that particular car division?

A. That is correct.

Q. You testified, I believe, that in respect to the Fisher Body, that during the time that you have been in this field, I believe you said that they had purchased from du Pont [fol. 4141] and Rinshed-Mason and Forbes Varnish and Jones-Dabney?

A. Yes, sir.

Q. And that Jones-Dabney dropped out after several years?

A. Yes.

Q. Now, you don't know with respect to Fisher's purchasers, do you, what the relative proportions were sup-

plied by du Pont as opposed to Rinshed-Mason or Forbes Varnish?

A. No, sir.

Q. I believe you stated, though, that based on your information that the du Pont "Duco" and the du Pont undercoats have been used exclusively by Chevrolet, based upon your recollection, is that right?

A. So far as I know, yes, sir.

Q. I believe you stated that the Olds Car Division was purchasing its top-coat material beginning in 1926 or 1927 from Rinshed-Mason, is that right?

A. If my memory serves me correct, that is the correct date.

Q. And they have continued to be the sole supplier—Rinshed-Mason has continued to be sole supplier up to date based upon your recollection?

A. That is right.

Q. I would like to show you Government's Exhibit No. 460 in evidence in this case, which is a report prepared in the du Pont Company, addressed to Mr. Lamot du Pont, the president.

It is headed, "Sales to General Motors and Fisher Body," and it is dated January 25, 1927.

There is a listing there of materials which are supplied to General Motors and Fisher Body by others than du Pont. I call your attention to the second page of this, in which it states:

[fol. 4142] "The above figures for Parlin do not mention General Motors car units. The reason for this is that Buick, Chevrolet and Olds purchased practically 100% of their requirements."

Do you have any explanation as to why, according to the du Pont Company figures, in 1926 du Pont was supplying all of Olds' requirements of paints.

A. No, sir, only that perhaps I am wrong by one year.

Q. You are not sure as to that?

A. That is right.

Q. I gathered from your direct examination that the Pontiac, which had previously, I gather, been known as Oakland, has used du Pont's "Duco" as its top material, to the best of your recollection, over the years?

A. That is right.

Q. And that with respect to the undercoats used in the Pontiac Division, that most of that has come from du Pont, although some, you say, was from Pontiac Varnish?

A. Some has been from Pontiac Varnish over the years.

Q. Is the Pontiac Varnish Company connected in any way with General Motors?

A. Not that I know of.

Q. I gather with respect to Buick that both the topcoats and the undercoats have been supplied by du Pont over the years, according to your best recollection?

A. That is right.

Q. You didn't mention General Motors Truck.

A. We have not had as close relationship in research with General Motors trucks as we have had with other divisions of the corporation. I do know that there has been a wide scattering of materials used on General Motors trucks. Some fleet buyers specify the type of paint that is to be used on their jobs that they buy.

[fol. 4143] Q. As I gathered on your direct testimony, you stated that you began the testing of lacquers which were competitive to the du Pont "Duco" back in the mid-twenties?

A. Yes, sir.

Q. And that by the latter part of 1926 or early 1927, according to your test, there were competitive lacquers to "Duco" which were equal to it in quality?

A. Yes, sir.

Q. Were any of the competitive lacquers superior to it in quality?

A. No, sir.

Q. You testified regarding certain improvements which have been made in paints over the years. Have you ever tested a particular lacquer made by a competitor of du Pont which you found in some respects to be an improvement or had better quality features than the comparable du Pont product?

A. Yes. As I tried to point out, the testing of automotive finishes is a very complicated thing. There are many factors that have to be taken into consideration.

While you might get a lacquer from a competitor which showed better blister resistance, it might not work in your plant because you might not have the time and temperature available to cure that thing properly. Therefore, while it

would necessitate then that you revamp your whole plant, put in new ovens or new equipment to handle that particular material, and what you have to do on these automotive finishes is to make some sort of a compromise and pick out the material whose advantages you think are greater than the disadvantages of the new material, you see.

Q. In answer to my question—I lost it a little bit there—I was trying to find out whether there have been occasions over the years when you have found that a competitor's lacquer had incorporated in it some improvement over the comparable du Pont lacquer.

A. Well, that is what I was trying to explain. Maybe I didn't make it clear.

We have seen materials, for example, that might have better lustre retention, but they might be poor in blister resistance or might be poor in crack resistance, so that what you have to do is try to put all these factors together, you see, and come up with something that has some decided advantages.

You do not change your paint materials on a big operation like General Motors, just because it is a little bit better in any respect. When you are painting that many automobiles in a day, you don't have to be wrong very long before you have an awful lot of dissatisfied customers. So when you are not in trouble, you don't change.

Q. Now these reports, these studies, these tests that you have run over the years, to whom have they been sent?

A. They are sent to members of what we call our Paint Committee, which is composed of men in the various divisions whose job it is to oversee the painting of the cars.

Q. One time Mr. Sloan, while he was, I believe, president, was attending some of those Paint Committee meetings, was he not?

A. I don't know of Mr. Sloan ever attending the Paint Committee meetings at the level at which I attend them.

Q. When you compile a report testing, for example, some other paint, competitive to a comparable du Pont product, in which you find that there is at least an element, among many, in which that competitive paint is superior to the comparable du Pont product, is the du Pont Company informed as to those quality tests?

A. Yes. We make a practice of calling in our suppliers,

[fol. 4145] laying out these test panels on the table in front of them, and saying, "Look here, this is what you have got to shoot at. These boys have got this little factor ahead of you. Can't you fellows improve this?"

That goes for du Pont, for Rinsched-Mason, Forbes, or anybody else whose paint material we are testing. We call them in and show them the panels. One thing they cannot get from us is a sample of the other fellow's material. They never get that.

Q. You were not active in this research on paints during the very early years when "Duco" was invented and first adopted by the General Motors units, were you?

A. No, sir. While I was working in the same laboratory and knew what was going on, I had nothing whatever to do with it.

Q. You didn't become acquainted until when?

A. The latter part of 1925.

Q. The latter part of 1925?

A. That is right.

Q. And by that time the du Pont Company was supplying a very large percentage of the car units' requirements of lacquers, was it not?

A. Those who were using it did. I think they were all using it by that time.

Q. And you don't really know under what circumstances the du Pont "Duco" had been adopted in the years preceding that time?

A. No, sir.

Mr. Harsha: I think that is all. Thank you.

Redirect Examination

By Mr. Hurd:

Q. Mr. Wirshing, you stated that you couldn't tell the [fol. 4146] extent to which material of one supplier was used where more than one supplier was taking care of the needs of a division.

I believe you also said that as far as Chevrolet was concerned, you did know that they were practically exclusively du Pont.

As far as Olds is concerned, do you know to what extent they are Rinsched-Mason?

A. So far as I know, it is practically 100 per cent.

Q. So far as Cadillac is concerned, to what extent is it Rinshed-Mason?

A. It is practically all of their material.

Q. One other thing, on this Olds transfer to Rinshed-Mason, the exhibit shown you, Government's Exhibit No. 460, as you noted, undoubtedly, was dated January 25, 1927. It refers to the year 1926, not the year 1927.

What was your testimony to begin with as to when Olds made the change?

A. I thought I said the latter part of 1926 or early 1927, I thought that is what I said.

Q. Is there anything about that exhibit to change that testimony?

A. No.

Mr. Hurd: That is all.

(Witness excused.)

[fol. 4147] RICHARD C. WILLIAMS, called as a witness on behalf of the defendant E. I du Pont de Nemours and Company, having been first duly sworn, was examined and testified as follows:

Direct examination

By Mr. Gribbon:

Q. Will you state your name?

A. Richard C. Williams.

[fol. 4148] Q. Where do you reside, Mr. Williams?

A. In Detroit, Michigan.

Q. Are you employed by the du Pont Company?

A. Yes, sir.

Q. What is your position with the du Pont Company?

A. I am manager of the Automotive Sales, Fabrics and Finishes Section.

Q. Fabrics and Finishes Department?

A. I report to the Fabrics and Finishes Department in Wilmington.

Q. Where is the Automotive Sales office located?

A. In Detroit,

Q. And how long have you held your present position?

A. Since 1943, sir.

Q. When did you first begin to sell automotive finishes?

A. In late 1923.

Q. Have you been continually engaged in the sale of automotive finishes since that time?

A. Yes, sir, I have.

Mr. Gribbon: At this time, your Honor, I would like to offer in evidence Exhibit No. DP 175, which is a statement of the positions held in the du Pont Company, held by the witness.

(Said document so offered and received in evidence was marked du Pont Exhibit No. 175.)

By Mr. Gribbon:

Q. Where did you receive your college education, Mr. Williams?

A. I graduated at the University of Maryland in 1914.

Q. What degree did you receive?

A. Bachelor of Science in Chemistry.

[fol. 4149] Q. Have you had any higher education?

A. I graduated from George Washington University in Washington, D. C., with a degree of Master of Science in Chemistry in 1916.

Q. Now, Mr. Williams, would you explain for us the responsibility of the automotive sales office of which you are the present manager?

A. Yes, sir.

We are engaged with the responsibility of soliciting sales and servicing fabric and finishing materials, to all automobile manufacturers, truck manufacturers, and also the accessory divisions that produce component parts that go into the manufacture of a finished automobile.

Q. Now, are there any geographical limitations on your responsibility?

A. No, sir. We have coast to coast.

Q. Now, when was the automotive sales office that you now head up, first established?

A. In 1925.

Q. And has this responsibility remained essentially the same as it is currently?

A. The office responsibilities have essentially been the same, but my responsibilities have changed from 1925—when I was there as a demonstrator—I continued to serve in pretty much of a capacity of a technical man for a number of years after that.

Q. Did your responsibilities thereafter broaden out?

A. Yes, sir. I gradually accepted broader responsibilities until I have my present position.

Q. You have been in the sales office in Detroit continuously since it was established?

A. That is correct, sir.

Q. Referring to your description of the responsibilities of the sales office, let me ask you, does your office sell all of the divisions of the General Motors?

A. Yes, sir.

[fol. 4150] Q. Are there none of the divisions of General Motors that are engaged in activities sold by other offices of the du Pont Company?

A. Other than automotive, yes. In other words, we do not sell Electromotive. We do not sell Frigidaire, and we do not sell Packard Electric. They are handled by the industrial division of the Fabrics and Finishes Department.

Q. And you have no responsibility with respect to industrial sales?

A. No, I do not.

Q. Now, you have mentioned fabrics. For how long have you had the responsibility for the sale of fabrics to the automotive companies?

A. August, 1949.

Q. And prior to that time did you have any personal responsibilities with respect to fabrics?

A. No, sir, I did not.

Mr. Gribbon: At this time, your Honor, I would like to refer to Defendant's Trial Exhibit DP 176.

By Mr. Gribbon:

Q. Would you take that, please, Mr. Williams. Was the material in this exhibit furnished by you?

A. Yes, sir.

Q. What does it purport to be?

A. It is essentially all of the materials that are used in finishing an automobile.

Q. Are these the materials that are used currently, or in the past?

A. Currently.

Q. Has there been significant change in the products used in the finishing system for automobiles?

A. There have been a lot of changes, but no significant changes. These materials have been used ever since the [fol. 4151] automobile industry has been in effect, with the exception of some improvements in the finishes that are listed here.

Q. You speak of since the automobile industry is in effect. Are you referring to the period when you first had contact with the automobile industry?

A. Yes, sir.

Mr. Gribbon: I offer in evidence Defendant's Trial Exhibit No. DP 176.

(Said document so offered and received in evidence was marked du Pont Exhibit No. 176.)

By Mr. Gribbon:

Q. Now, Mr. Williams, would you, looking at this exhibit, tell us briefly the composition of each of the products mentioned here, and briefly the function performed by each in the finishing of the automobile.

Would you start with the Bonderite, the first item.

A. I will try to, sir. "Bonderite" is a trade name, Mr. Gribbon, and Bonderizing is a process. Now, the Bonderizing process is the last step in the cleaning process of both sheet metal, which we frequently refer to as hoods and fenders, and the body metal.

Q. So that the Bonderizing process is applied immediately before the coats of paint begin to go on?

A. That's right. Bonderizing has two functions. Essentially it deposits a phosphate coating which forms a very satisfactory base for the succeeding coats, and also it has a tendency to inhibit rust if the jobs are scratched in service. By that I mean that the rust will not spread. It will be held to the spot where the damage has been done.

[fol. 4152] Q. Would you take the primer, please?

A. Well, Mr. Gribbon, there are two types of primer, dip primer for sheet metal, and spray primer for bodies.

Again I refer to hoods and fenders when I say sheet metal, and spray is for bodies.

The reason for the development of the two primers is that it is impractical to dip bodies, and therefore we have to resort to the spray technique for bodies.

Q. What is the composition of the primer products?

A. Well, essentially they are a combination of oils and driers and pigments.

Q. Will you go on with the putty glaze?

A. Putty glaze is just about what the word implies. It is also a combination of pigments, oils and driers, but it is of such consistency that it can't be sprayed or brushed, and therefore it is applied with a putty knife, and it is used to fill up holes in the metal.

Q. At what point in the finishing process is it applied?

A. Usually right after the primer, because the primer has a tendency when it is sprayed to show up the defects that are on the body or the sheet metal.

Q. Will you turn to the surfacer?

A. Surfacer is also essentially—I will mention the composition first—a combination of oils, pigments and driers, but naturally the surfacer has appreciably more pigments in it because you depend on that to get the ultimate smooth surface from which you get the hold out of the succeeding top coat.

Q. What is the primer surfacer?

A. Well, the primer surfacer is a combination of the primer and the surfacer.

Now, we developed a primer surfacer in the hope of accomplishing two things: One is to eliminate labor in application, and the other is that we feel that with the [fol. 4153] primer surfacer and by incorporating the two properties in one material we can come up with a product that will give us better performance generally.

Q. You mean by one application you do the job of the primer and the surfacer?

A. Yes.

Q. For how long has that product been in use?

A. It is in recent years.

Q. What is the use of the next product mentioned, sandpaper?

A. Well, after you spray your surfacer on your job, naturally you have got to sand the job down to get a smooth

texture on which to apply your top coat. The preferred method is to use sandpaper of various grit size and water.

Q. Is that ordinary sandpaper that you might use in the household?

A. Yes, sir, exactly the same.

Q. When is it applied, and how?

A. It is done by hand and also mechanically. In some areas of the job, the contours are such that you can't get in and out of the kinks on the jobs with the machine that they use, if it is machine operation, so then you have to resort to the hand.

It is pretty much a preference on the part of the paint superintendent.

Q. The next product is top coats, and I see you have in parentheses there lacquer or enamel mixed with thinner.

Will you tell us the two types of top coats?

A. The two types of top coats—lacquers are essentially a nitro-cellulose base, pigments, plasticisers, and solvents. Enamels are synthetic bases with pigments and solvents.

Q. Are thinners mixed with both types of top coats?

A. Yes, sir.

[fol. 4154] Q. Tell us then briefly the next product, rubbing compound.

A. Rubbing compound is a combination of various types of fillers that are used in making burnishing materials.

The texture of the material is designed so that it will polish the job down and give you the burnishing effect that you want to bring up the desired lustre of a job, and at the same time the ingredients used in it are not so severe that it would scratch the surface to the point that it would not be pleasing to the eye.

Q. When are the rubbing compounds applied?

A. After the top coats are on.

Q. Will you refer then to the next three products listed there, chassis enamel, motor enamel, and miscellaneous lacquers, and tell us briefly where they fit into this process of finishing the automobile?

A. At one time chassis enamel was a very important item. That was when a great deal of the chassis would show when you would look at the car in the street. But now, with the present design of cars, the chassis is almost out of sight, so you really don't require the same quality material because you don't have to have the appearance

any more, and you use it strictly for a protective coating.

Q. You use essentially the same quantity of material?

A. Essentially the same quantity, but a different formulation.

Motor enamel is strictly an oil type product with pigment added, and it does two things: it has a decorative purpose because when a man opens the hood of his car he likes to see a nice looking, clean, motor.

Also, it has the tendency to absorb some grease that may [fol. 4155] be on the motor, that has gotten there through the foundry operation. Also it is a protective coating.

Q. Now, are the chassis enamel and motor enamel of a different composition than the top coats you mentioned above?

A. Yes, sir, they are.

Q. What about this product, Interior Enamels? How does that differ from the ordinary top coat?

A. Interior Enamels are for decorative purposes. You will find on all automobile moldings, on the interior, hardware, glove compartment doors, and instrument panels, we refer to those as interior enamels.

Q. Do they differ in composition from the top coats used on the exterior?

A. Yes, sir, they do, because the same quality is not required as is required for the exterior.

They are really for decorative purposes only, although they do form some protective coating.

Q. Now, taking the next two products, insulating varnish and cable lacquer. Does your office sell those products?

A. No, sir, we do not.

Q. Who sells those products?

A. They are handled by our industrial division.

Q. On what part of the car do they go?

A. They go on batteries, starters, ignition systems.

Q. Looking at the last product, would you explain to us the composition of the body sound deadener?

A. The body sound deadener is an asphalt type product made in very heavy consistency, and it is used to absorb shock and noises, both inside and outside the car.

They put a lot of body deadener on the inside, line the trunks with it, and also it is often used on the under-carriage.

[fol. 4156] Q. Which of these products in du Pont Ex-

hibit No. 176 does du Pont Company manufacture and offer?

A. We offer and sell everything except Bonderite, sandpaper and body sound deadener.

Q. Other than those three products, you offer the rest of the products used in the finishing process?

A. A complete line of products, sir.

Q. Now, the products you have listed on du Pont Exhibit 176, which are ordinarily referred to by the name "Duco" when offered by du Pont.

A. Lacquers and top coats.

Q. Only the lacquers?

A. That is right, sir.

Q. Ordinarily is the mixture of lacquer and the thinner referred to as "Duco"?

A. That is right, sir.

Q. Mr. Williams, let me ask you first, when was your first experience with "Duco"?

A. I think it was the latter part of 1921 or very early in 1922.

Q. Would you tell us the occasion?

A. Well, I was working in the laboratory up to that time at Parlin, New Jersey, and Mr. Elms, who was manager of the division there then, asked me if I wouldn't get myself a pair of overalls and come up to the paint shop.

We had a paint shop there in which they were evaluating this "Duco" as a possible salable product.

At that time there had been appreciable work, I think, done in the refinish field, and they had some of the refinishers that had gotten interested in the material. I went to the paint shop, and it was essentially a training course for me.

[fol. 4157] There I prepared panels, sprayed them, learned the technique of using a spray gun, and learned something of the refinish application.

Q. "Duco" had been discovered at the time of your assignment to the paint shop?

A. Yes, sir, although I think we referred to it at that time as Viscolac.

Q. You had no part in the discovery or work that immediately followed the discovery of "Duco"?

A. No, sir, I did not.

Q. How long did you remain in the paint shop at Parlin?

A. Oh, a very short while. I participated in two or three demonstrations while I was there.

Our sales people would bring in some refinisher who was interested in a demonstration of "Duco," and it fell my lot to finish a couple of cars, or at least be instrumental in finishing a couple of cars.

That happened in early 1922.

Q. What is refinishing?

A. It is a car that has been finished once, and you want to finish it over again.

Q. Not an original manufacture?

A. No, sir.

Q. What was your next assignment?

A. Well, my next assignment was in Dayton.

Q. When did that assignment take place?

A. Mr. Flaherty, who was our sales manager at that time—although I didn't report to him at that time, I still reported to Mr. Callahan in the laboratory—told me that Mr. Mougey of General Motors Research had been to see him, and that they at the research laboratories in Dayton were interested in exploring "Duco" as a possibility for automobile production.

He told me to pack my things and get some demonstrable material and get out to Dayton and work with Mougey.

[fol. 4158] Q. Did Mr. Flaherty or anyone else at du Pont tell you that General Motors had agreed to use "Duco"?

A. No, sir.

Q. Now, what instructions did you receive at this time in the spring of 1922, as to the duration of your work in Dayton?

A. There was no time put on it whatever. I was to go there and counsel with them and work with them and try to develop whatever came out of the venture.

Q. With whom did you work at General Motors Research at Dayton when you reported there in the spring of 1922?

A. I reported to Mr. Mougey. There were several other boys in the laboratory at the time that were doing some of the foot work, just as I was.

Q. Who were they?

A. There was a gentleman by the name of Meacham, and also, I think one by the name of Chase. I don't recall the others.

Q. Was Mr. Mougey in charge of this work, so far as you were able to observe?

A. As near as I could observe, he was the inspection head under Doctor Clements who was director of research at that time.

Q. Did any of these men with whom you worked tell you they were under instructions to use "Duco"?

A. No, sir, they did not.

Q. Did any of them advise you as to what their instructions were with respect to finishes?

A. Mr. Mougey told me that he had been given the assignment to explore all finishes with two objectives.

One was to break the bottleneck in their plants, that the automotive industry was growing, and they expected to grow with it, and it was just impossible for them to produce cars at a growing rate with the type of finishes they [fol. 4159] were using at that time, and that if this production continued to grow as they anticipated it would, it either meant making over additional plants at a much larger capital investment, but they just could not produce as they were, and they would not have an opportunity to get their share of the market.

Q. Mr. Williams, the record at this stage discloses the existence of a Paint and Enamel Committee in General Motors at this time, 1922.

Did you know of the existence of that committee?

A. Yes, sir.

Q. Did you attend its meetings?

A. No, sir, I did not.

Q. You never attended a meeting of the Paint and Enamel Committee?

A. No, sir, Mr. Gribbon.

May I go back to where you asked me about what Mr. Mougey said to me?

Q. Yes, go ahead.

A. I only stated one objective. The other was that they were looking for a more durable finish. The old type of finishes that they were using then, which were largely varnish, not only impeded the progress in the plant, but they were being plagued with complaints from the field of failures, so we had two objectives.

One was to produce a better product, and the other was

to get something that would shorten the finish time in their plants, which at that time was anywhere from a week to four weeks.

Q. So in the spring of 1922, under instructions of Mr. Flaherty of Parlin, you undertook to work with Mr. Mougey and his group at Dayton?

A. Yes, sir.

Q. Will you describe to us the course of your work with Mr. Mougey in the spring of 1922 and the months there- [fol. 4160] after?

A. The first thing we did was to prepare a series of panels. We prepared a lot of them.

Q. How do you mean, you prepared them?

A. We took 4" by 12" panels which were used for testing, and we cleaned them in every conceivable way we could think of, sand blasting, and sandpaper, and some just plain solvent cleaner, and so on.

Then, after we prepared the panels, we sprayed the "Duco" on the panels and we would observe its characteristics from the viewpoint of spraying, whether it laid down a satisfactory spray, whether it flowed freely, and many things.

Now, the object in making so many panels was to permit us to get the panels on the test rack as soon as possible to get the results of the durability of the product that we were testing, and I think I can demonstrate that by saying that we would have some panels in Florida; they may have had some panels in Arizona, and they may have had some panels in Seattle, and we may have put panels on the east coast where they would be subject to salt spray.

Now, the reason for many panels was so that we could bring them in at the end of every three months, and observe their performance under the various elements to which they were subjected.

And still leave some of the panels out so that would not break the continuity of the program.

Q. Was all of your work at Dayton confined to these test panels?

A. Yes, sir, it was.

Q. Did there come a time when you commenced to paint automobile bodies?

A. Yes, sir.

[fol. 4161] Q. Will you tell us when that was, and the circumstances of that venture?

A. Well, Mr. Mougey felt that we should parallel that work that we were doing for the laboratories and also in the plants, because while the laboratories could pass judgment on the material from the viewpoint of ultimate performance, it still had to be worked into the plants because the plants made the decision as to whether they will use the materials or not, so he thought well, we have got a new product here, and while we are running these tests in the field to get the ultimate durability we ought to also have some tests on cars, if we can get the Divisions to finish a few cars, we would get some idea of the growing pains that we would have to go through in making the material applicable to the car units.

Q. Did Mr. Mougey arrange for demonstrations at some of the car units?

A. Yes, sir, he did.

Q. Do you recall which was the first car unit on which you demonstrated "Duco"?

A. Yes, I have an indelible impression.

Q. Where was that?

A. Flint, Michigan, on Buick, in May, 1922.

Q. What did you do there on this occasion in Flint in May of 1922?

A. I had nothing to do with making the arrangements. Mr. Mougey made the arrangements, with Mr. Herman Weckler at Buick Motor. Mr. Weckler was the works engineer, and apparently he had been in contact with Mr. Mougey, and discussed this problem, and realized they had a problem, and something had to be done about it. He was very fair minded executive, and he was looking for something new also, and I think that Mr. Mougey thought because of Mr. Weckler's attitude, it would be a good place to start.

[fol. 4162] Q. Did you make a demonstration to Buick in May of 1922?

A. Yes, sir.

Q. How many cars did you finish on that occasion?

A. We finished two.

Q. Now, following this demonstration at Buick, did you make a similar demonstration at other General Motors units?

A. Yes, sir, we did.

Q. Could you tell us how long this demonstration period continued?

A. Well, it continued from May, 1922, well into the summer of 1923, as far as demonstrations were concerned.

Q. Did you supervise the demonstrations that were being carried on at these car units?

A. Mr. Gribbon, I did more than that. I sprayed every one of these cars personally.

Q. Were you also at Dayton during this period?

A. I was back and forth between Dayton and our Parlin plant. I was practically living out of a suitcase during that period.

Q. Did there come a time when you were changed from Dayton to some other place?

A. Yes, I was changed to Detroit in January, 1943.

Q. During the course of these demonstrations, Mr. Williams, were you assisted in any way by your superiors at Parlin?

A. Mr. Flaherty and Mr. Lackey and Mr. Callahan used to come out once in awhile to counsel with me.

Q. You have described Mr. Flaherty and Mr. Callahan. Who was Mr. Lackey?

A. Mr. Lackey was in the sales department in Parlin, also.

Q. Did any of the other of your superiors at Parlin come out to assist you in these demonstrations?

A. Mr. Moosman came out occasionally.

[fol. 4163] Q. Who is Mr. Moosman?

A. He was assistant division manager, I believe.

Q. Who was head of the department, responsible for "Duco" at this time?

A. At Parlin, Mr. J. W. Elms.

Q. Did he come out to the Detroit area to assist you in a demonstration?

A. He was in Detroit a couple of times. I did most of my work for Mr. Flaherty.

Q. Who was Mr. Elms' superior?

A. Mr. Allen, if I remember correctly, of Wilmington.

Q. Mr. W. P. Allen?

A. Yes, sir.

Q. Did he come out to Detroit to assist in the demonstration?

A. He was there several times.

Q. Now, in addition to the superiors who came out to work with you, did you receive any help of any assistants in the course of your demonstration?

A. Any assistants?

Q. Yes, the plural of assistant.

A. Oh, after we were fairly well established, and I got to the point where I could not make all the demonstrations we were being requested to, there were several other men that were assigned to it.

Q. During the period of your demonstrations with Buick, Mr. Williams, did you report to your superiors at Parlin?

A. Yes, sir.

Q. In what manner?

A. Oh, I wrote reports and telephone conversations, and I made trips back.

Q. What was the purpose of these reports?

A. To give them some idea of how much progress we were making, and what we had to do in the way of modifying our methods to meet the various conditions that would come before us in the plant.

Mr. Gribbon: At this time, your Honor, I would like to refer to exhibits which have been marked as Defendants Exhibits DP 177 through 185.

[fol. 4164] By Mr. Gribbon:

Q. Would you examine those exhibits, Mr. Williams, and will you tell me whether those exhibits are the reports that you sent back of your Detroit and Flint demonstrations to your superiors at Parlin?

A. Yes, sir, they are.

Q. I refer you in particular to Defendants' Exhibit DP 182, and I note it is signed by R. K. Cathcart? Who is Mr. Cathcart?

A. One of the boys that was assigned to our group from Parlin who came out to assist us.

Mr. Gribbon: I offer in evidence du Pont Defendants' Exhibit DP No. 177, 178, 179, 180, 181, 182, 183 and 184; and 184, by the way, carries no date at the top, but there will be noted a memorandum on page 3 which says that there is a received stamp dated November 19, 1923; and Defendants Exhibit DP 185.

(Said documents so offered and received in evidence were marked du Pont Exhibits Nos. 177, 178, 179, 180, 181, 182, 183, 184 and 185.).

By Mr. Gribbon:

Q. I also show you, Mr. Williams, an exhibit that has been previously marked and introduced in evidence as GM 120-A. Would you examine that document and state whether that is also a report to your superiors of your work in Detroit?

A. Yes, sir.

Q. Are these exhibits that I have shown you, Mr. Williams, a complete set of the reports which you filed from Detroit?

A. I think that there are more of them.

Q. How often did you write these reports?

A. At least once a week and oftener, if I had time, if there was anything I thought of to report.

[fol. 4165] Q. Did there come a time, Mr. Williams, when the General Motors Corporation ceased the demonstration and experimentation and adopted the "Duco" for use in production?

A. Yes, sir, but not as a group. It was all done by individual units and at different times.

Q. Were you ever advised that General Motors had made a decision that the entire corporation would use "Duco"?

A. No, I was not.

Q. Which of the divisions was the first to adopt "Duco" for use in production?

A. The Oakland Motor Car Company at Pontiac, Michigan.

Q. Had you made demonstrations at the Oakland plant?

A. Yes, sir.

Q. Do you know the circumstances of Oakland's adoption of "Duco"?

A. I think I do.

Q. Could you tell us briefly what they were?

A. Well, after we made Buick demonstrations, we made demonstrations at Oakland Motor, and Mr. Rogers who was the paint superintendent there was a very aggressive individual, forward looking, and he took the position that,

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as "Duco" was being tried at other plants as a substitute for color finish it was a mistake, because he felt that you weren't getting the full benefit of the material and there should be some way to use the product that showed the durable result that "Duco" did, to be used—some way to use it as a top coat.

Q. What was the objection to using "Duco" as a top coat at this time?

A. Why, it was flat as it was sprayed.

Q. You mean the appearance problem?

A. The appearance problem, yes, sir.

[fol. 4166] Q. What did Mr. Rogers do?

A. He developed a burnishing process that involved the use of the rubbing compounds that we talked about earlier, and by that burnishing process he was able to bring up a lustre that was very pleasing, and it was comparable to the lustre that you see on the lacquer jobs today, and he was successful in selling his management that they should pioneer the development of this finish with this rubbed appearance.

Q. Do you recall when Oakland decided to use "Duco" in production?

A. They went into production on the open car on the 1924 model which I think was in the summer of 1923.

Q. I refer you now to exhibits which have been marked DP 186 and DP 187, the first of which was a report from Mr. R. C. Williams to Mr. J. J. Moosmann, Director of Sales.

I should like to read the first paragraph. This is dated May 1, 1923:

"Enclosed you will find a memorandum given to me today by Mr. Rogers, Supt. of assembly and finishing at the Oakland Motor Car Co. This will give you an approximate idea of the amount of material the Oakland Motor people will use up to October 1st."

Skipping down to the second paragraph:

"Again we wish to emphasize the importance of having the Operating Department seeing that this material leaves Parlin the best that we can make. Providing we encounter no difficulties with these three months supplies we feel that this order will be a trivial one."

[fol. 4167] DP-187 is the memorandum referred to in DP-186, and states the Oakland's requirements in gallons for the period July 15 through September.

Do these exhibits reflect Oakland's decision to adopt "Duco"?

A. Yes, I think they do.

Mr. Gribbon: I offer Defendants' Exhibit No. 186 and No. 187.

(Said documents, so offered and received in evidence, were marked du Pont Exhibits Nos. 186 and 187.)

By Mr. Gribbon:

Q. You stated that this decision covered only Oakland's open car production?

A. That's correct, sir.

Q. Were you advised as to the experience Oakland had with the "Duco" finish on its open cars?

A. Will you kindly repeat that question?

Mr. Gribbon: Will you read the question, please?

(Question read:)

By the Witness:

A. Sure I was.

By Mr. Gribbon:

Q. What was that experience?

A. Well, naturally I was interested in pioneering "Duco," and I was doing everything I could to get it adopted, so as soon as the Oakland Motor Car put these cars in the hands of the dealers, I would make some quick follow-ups to see what the reaction was.

[fol. 4168] Q. What was the reaction?

A. The reaction was the dealers said to the Oakland Motor management, "Well, look, how come you give us this beautiful finish and more durable finish on the open cars? Our closed cars are the ones that cost more money, and why can't we give the people that are in the market for the closed car as good a finish as you have on the open car?"

Mr. Gribbon: I would like to refer to Defendants' Exhibit that has been marked as DP-188, which is a Promotion

Report for October from the files of the du Pont Company dated November 7, 1923, and would like to read, with the Court's permission, the paragraph that starts at the bottom of the page one under "Oakland Motor Company":

"Oakland continues to use 'Duco' on all open models with increasing satisfaction, and a slight improvement in the quality of the jobs. Experimental batches with slightly increased softener content have given good results, and in November it is expected that four or five hundred cars will be put out with an Enamel containing a higher amount of softener than the standard 526. The most important development at Oakland was in reference to the use of 'Duco' on closed cars. There has been an almost unanimous demand on the part of Oakland distributors for 'Duco' on the closed jobs, because they say they are in an illogical position when they attempt to explain to a prospective Oakland purchaser why the Oakland Company uses a better finish on the cheaper open cars than on the more expensive closed models."

Now, I offer in evidence du Pont Exhibit No. 188.

[fol: 4169] (Said document, so offered and received in evidence, was marked du Pont Exhibit No. 188.)

By Mr. Gribbon:

Q. Where were Oakland's closed bodies being made at this time, Mr. Williams?

A. At Fisher Body, Pontiac.

Q. And shortly after this report, did Oakland turn out its closed bodies with finishes in "Duco"?

A. Well, first Mr. Gribbon, we had to sell the Fisher Body Division or Corporation that "Duco" would be acceptable to them.

Q. And this is later in 1923, is that right?

A. Yes, sir.

Q. Had you prior to this time done any demonstrating or experimental work at the Fisher-Body plants?

A. Yes, sir, we had.

Q. Had Mr. Mougey arranged for those demonstrations?

A. No, sir, he had not.

Q. Who had arranged for this?

A. Mr. Flaherty and myself.

Q. Would you tell us the occasion of your first demonstration at the Fisher plants?

A. I think I can, sir.

Q. Will you proceed?

A. Mr. Flaherty and I went to see Mr. Lawrence P. Fisher—

Q. Who was Mr. Lawrence P. Fisher?

A. He was general manager of Fisher Body at that time.

Q. Would you tell us the approximate date of this visit that you and Mr. Flaherty made to Mr. Lawrence Fisher?

A. I think it was sometime in 1922.

Q. Will you proceed?

A. Well, Mr. Fisher said that it was in order for us to arrange for a demonstration, after Mr. Flaherty and I visited him.

[fol. 4170] They had an experimental unit in Detroit, referred to as Plant 9, and he got in the paint superintendent, Mr. John Breslin, and told him to arrange for a demonstration and we did.

The day we finished that automobile, I did it, and Mr. Fred Fisher and Mr. Lawrence Fisher and Mr. E. F. Fisher and Mr. A. J. Fisher and Mr. C. T. Fisher and Mr. W. A. Fisher, the six Fisher brothers, all came over to see that demonstration.

Q. Was the demonstration successful?

A. Well, I sprayed the job, and I must admit that I trembled a bit, spraying this automobile for the Fisher brothers, but still it was successful to the extent that we did further work.

After we finished the job and the brothers had a chance to look at it, one of them said—I don't remember which one—but he said, "I don't know whether we could sell that or not. It is pretty flat, and whether we can work out the rubbing and polishing operation to make it acceptable on a closed car as it is on an open car, I don't know."

Mr. Fred Fisher, the dean of the Fisher brothers at that time, I will never forget his remark. He said to me, "Young man, don't pay any attention to these remarks and don't let them discourage you. I have seen lots of worse things than this get well."

So it was very encouraging, and that resulted in our setting up an experimental program at Fisher Body which was under the direction of Mr. Breslin, and he and I really did some intensified work in the Fisher plants from there on.

Q. Did the Fisher plant at Pontiac commence to put "Duco" on the closed Oaklands late in 1923?

A. If I remember correctly, Mr. Gribbon, it was early in 1924.

Q. Turning now to Chevrolet, what type of finish was [fol. 4171] Chevrolet using at the time that you were making "Duco" demonstrations, say, 1922, 1923, and 1924?

A. All their open jobs, and most of their output were in open jobs, was black japan.

Q. What is black japan?

A. It is essentially a high bake black enamel.

Q. What are the qualities of the japan finish?

A. Quite durable, but available only in black.

Q. Did you do experimental work at the Chevrolet plants?

A. Yes, sir, we did experimental work at the Chevrolet plants.

Q. Who was in charge of the experimental work at the Chevrolet plants?

A. Most of the work was done at Flint, and John McQuaid was the paint superintendent at that time, and he supervised it and arranged for most of the work that we did.

Q. Did Mr. McQuaid advise you at any time as to Chevrolet's intentions with respect to "Duco"?

A. Well, he told me that they were quite satisfied with the black japan as a finishing material, but they knew that we were getting into an era where people were demanding color, and that if they had to go color, they would perhaps go to "Duco".

Q. Chevrolet ultimately did adopt "Duco" on its production, did it not?

A. That is right.

Q. Do you recall what your first success was at Chevrolet in getting them to put "Duco" into production?

A. If I remember correctly, their export jobs at that time were being varnished, and they were gray. They were having trouble with the varnish in shipments in export, and they

[fol. 4172] decided to run a few export jobs in gray "Duco", which we did.

Q. When was that, do you recall?

A. I think that was in 1922, late 1922.

Q. I refer to your report that has previously been introduced in evidence, du Pont Exhibit No. 183.

Will you look at the third page of that report, headed "Chevrolet Motor Company," and see if that refreshes your recollection as to when you finished the Chevrolet export jobs?

A. I am a year off.

Q. What was the date?

A. 1923; August, 1923.

Q. Late 1923?

A. 1923, instead of 1922, sir.

Q. Did Chevrolet thereafter, Mr. Williams, adopt "Duco" on its entire production?

A. Yes, sir, they did.

Q. Did it place it on open and closed cars simultaneously?

A. No, sir. They went to closed cars first.

Q. Do you recall the circumstances of Chevrolet placing "Duco" on closed cars?

A. I think I do.

Fisher were making the closed bodies, and Chevrolet proper were making the open jobs. They were finished in black enamel, and Fisher was getting into "Duco" at that time, and they took the position—at least, that is what Mr. Breslin told me, he was the paint superintendent—that to attempt to use both "Duco", putting "Duco" on some jobs and varnish in the one plant, wasn't practical, and that they thought that "Duco" was the finish they should use, and therefore they were doing what they could to suggest to Chevrolet that they go along on the closed production.

Q. So as you recall the circumstances, Mr. Breslin of Fisher was instrumental in having Chevrolet change its [fol. 4173] closed production to "Duco"?

A. Mr. Breslin is the man that I had the contact with, and I think he probably took this up with his management, Mr. Lawrence Fisher, and perhaps the contacts were made from that point. Mr. Breslin is the man who told me that it would be difficult to run two finishes in one plant.

Q. Now, let's return to Buick for a moment. You have

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testified that your first automobile demonstration took place at Buick, and that was in May of 1922."

A. That is right, sir.

Q. How long was it before Buick determined to use "Duco" in its production?

A. I think that Buick adopted "Duco" or made the decision to adopt "Duco" in the spring of 1924, which meant that the 1925 model would be in "Duco".

Q. During that intervening period, did Buick cease to experiment with "Duco"?

A. Not by any means, sir. It is not at all unusual for these plants to experiment for one or two years or more before making a decision that involves as much as a decision like that would make.

Buick was producing a number of cars, and they had a fine reputation, and naturally they weren't going to jump into something unless they knew they had fully evaluated the material.

I think it may be well to point out that the average person has no realization of what is expected of the thin film on an automobile. When you think that you have got three mills, that is, three-thousandths of an inch, and realize what is expected of it, starting from the primer and surfacer, out, why I think these people should evaluate the materials for a substantial period, because if they should happen to start production without an evaluation and tie up the plant, and [fol. 4174] the dealers are out of cars, people are out of work, and the finish fails, it can be very costly.

So I think Buick's decision was a wise one.

Q. You have mentioned Mr. Herman Weckler. Was he in charge of Buick's consideration of "Duco"?

A. Mr. Weckler was the works engineer and all of the work was done under his direction. He was the one person that seemed to have the thing best in his mind. He felt that here was something that is a real opportunity, so we should take advantage of it, and all of our experimental work that we did was handled through Mr. Weckler.

Q. Who was the paint superintendent of Buick?

A. Mr. Mullin, Alex Mullin.

Q. Did Mr. Mullin engage in any experimental work with "Duco" during this period, say, between 1922 and 1924?

A. Well; not until late in the spring of 1924 because up to that time he showed little or no interest in "Duco."

Q. Did you ever speak to Mr. Weckler regarding Mr. Mullin's cooperation with respect to "Duco"?

A. Yes, sir, I did. I told him that I thought just as we had in some of the other units, that we would have to have the cooperative efforts of the paint superintendent before we could expect to produce jobs that were entirely satisfactory from the viewpoint of appearance.

Q. How was Mr. Mullin's refusal to try out "Duco" affecting your efforts to have it adopted at Buick?

A. Mr. Gribbon, if you go into an automobile plant and realize some of the things that have to be done in arranging for a test—it isn't like pressing a button and having the thing start.

In the first place, they are running a lot of automobiles [fol. 4175] and any time you go in a plant to make tests and interrupt any production whatever, you are impeding the progress of something.

While these people take the position that naturally they want to know of developments and they are willing to go along; they hate to interrupt production to do it. Now I go to a plant and want to finish an automobile, and I can't get any cooperation from the paint superintendent, why, the chances of my having an even flow as far as the demonstration is concerned are appreciably retarded.

Q. What was Mr. Weckler's reply to you when you told him of Mr. Mullin's failure to cooperate?

A. He said, "You are selling the stuff, you sell Mullin."

Q. Did you sell Mullin?

A. Well, I appealed to his vanity.

Q. Will you explain that, please?

A. Well, I knew he was a good paint superintendent, and I said to him, "Alex, we are not getting to first base around here unless you throw your weight behind the wheel. You know more about finishing an automobile in five minutes than I do, and you have had a lot more experience than I have. How about doing something about this?"

Q. Did he do something about it?

A. He said, "If you will take your baggage and get out of the plant, and take the long-haired chemists with you, I will see what I can do."

Q. Did Mr. Mullin thereafter finish the jobs in "Duco"?

A. Yes, sir, he did.

Q. When was that?

A. I think in the spring of 1924.

Q. Do you recall that the Buick officials made an examination of those jobs?

A. Yes, sir, they did.

Q. Was that the occasion of Buick's adoption of [fol. 4176] "Duco"?

A. I think that was instrumental in it. Mr. Mullin proved to them he could really produce the job, and he did.

Q. I would like to refer to General Motors Exhibit No. 120-A and read, with the Court's permission, the second paragraph of that exhibit:

This is a report from Mr. Williams to Mr. Flaherty, dated May 2, 1924:

"Early in April Mr. Allen and the writer visited Buick and Mr. Bassett, General Manager asked us to prepare bodies in dark and light blue that he may show the sales department what we were capable of producing. You are familiar with the attitude Buick's Paint Supt., has always taken toward 'Ducò' and in order to use his experience as a painter we had to attempt to do this work in an entirely separate division of the company. This move riled the Superintendent and he completed some jobs for spite and did exactly as we had planned, the results being very good 'Duco' jobs."

Does this refer to your appealing to Mr. Mullin's vanity?

A. I think so, sir.

Q. I would like also to refer to what has been marked as Defendant's Exhibit DP 189, which is a report in letter form from Mr. J. J. Moosmann, to Mr. E. Flaherty, dated May 12, 1924.

I will read, if the Court please, the third paragraph of that letter:

"The workmanship as regards spraying, rubbing and polishing was very good, and it was evident that the men in charge of the preparation of these cars had really tried to turn out good jobs, with the exception [fol. 4177] that Browne had insisted on using only two coats of 'Duco'."

Is this a description of the jobs that Mr. Mullin had prepared at that time?

A. I think so, sir.

Q. I notice in General Motors Exhibit No. 120-A, in the third paragraph, it is stated that Mr. Moosmann discouraged Buick from putting its entire production into "Duco".

Did Mr. Moosmann consult with you on that occasion?

A. Yes, sir, he did.

Q. Do you know what the basis of that recommendation by Mr. Moosmann was?

A. Well, Mr. Gribbon, when you introduce something that is as novel as "Duco" in any plant procedure, it is always wise to proceed with caution.

Now if Buick would turn their total production to "Duco" at one time, and they would run into some trouble, as I have stated previously, and not be able to get their production out, it would be a crucial situation.

So we took the position, and I believe rightly so, that there was still some growing pains in this, and that it would be safer if we took it in easy steps rather than trying to throw a production the size of Buick's into this type of finish overnight.

Q. Was Mr. Alex Mullin the paint superintendent at Buick fired?

A. No, sir.

Q. Did he remain an employee of the company?

A. No, sir, he was sent to Australia on a mission, and died en route coming back.

Q. Still in the employ of General Motors?

A. He was when he went to Australia.

Q. Did Mr. Herman Weckler remain in the employ of the company?

A. No, sir, he did not.

[fol. 4178] Q. What happened to him?

A. Mr. Weckler left the Buick Motor Company and went to the Chrysler Corporation, where, until just recently, he held the position of vice president and general operational manager. I understand he has just retired very recently.

Q. Did Mr. Russell Rogers, the paint superintendent at Oakland, remain in the employ of General Motors?

A. No, sir, he retired—resigned, I beg your pardon, and I think he went with a paint manufacturer.

Q. Not the du Pont Company?

A. No, sir.

Q. When did the Cadillac Company adopt "Duco"?

A. Mr. Gribbon, we first demonstrated "Duco" to Cadillac at the Buick plant in July of 1922, and after that time, why, we ran some jobs at Cadillac from time to time, but they were the last of the General Motors units to adopt "Duco."

They put out some roadsters, I believe, in "Duco" in 1924, I think, or 1925—I may have the date wrong, but it was within that area of time.

Then they offered "Duco" and also color varnish. They gave the option to the sales department. They could use either.

So, if I remember correctly, it was, oh, 1925 or 1926, before Cadillac was really in "Duco."

Q. Until that time they continued to put out some production in the color varnish?

A. Some color varnish, and they offered an optional finish.

Q. But they had not adopted "Duco" as the standard production finish during 1924?

A. No, sir, they had not.

Q. Mr. Williams, during this period that you were demonstrating and experimenting with "Duco" at the General Motors units, were you doing any similar work with other automobile companies?

A. Yes, we were.

Q. When did such work commence?

A. In 1922.

Q. How long did it continue?

A. Until it was adopted by a good many of them.

Q. Which of the other automobile companies did you work with?

A. We worked with Franklin. We worked with Cleveland, Chandler, Hupmobile, Nash, Studebaker—practically all of them.

Q. Did you make demonstrations at these other automobile companies?

A. A great many of them I made personally. Some of them were made by the men who were assisting me at that time. We were spread so thin we couldn't cover them all.

Q. Could you tell us briefly the course of your demon-

strating work at these auto companies other than the General Motors units?

A. We did it on very much the same basis as we did General Motors; except that most of these units didn't have research laboratories that were evaluating the material to the same extent that General Motors did.

Q. Did any other automobile company, as you recall, test "Duco" as exhaustively as Buick did?

A. No, sir, I don't think so.

Q. I would like to refer, please, to the exhibit that has been marked as DP-184.

This is one of the reports that you made to your superiors in Parlin during the demonstration period, is it not?

A. I am looking for the date on it.

Q. This is the one where the date is on page 3, stamped "Received November 19, 1923."

A. Yes, sir, this is one of my reports.

[fol. 4180] Q. I notice this is signed "Red." Is that you?

A. Yes, sir, that's me.

Q. Looking at the first page, which is in the nature of a status report, would you read the entries there that refer to work being done at car companies other than the General Motors units?

A. Lincoln, Ford—

Q. Would you pause on the Ford a minute? Did you make calls on Ford?

A. Yes, sir, we did.

Q. Did you make many demonstrations at Ford?

A. No, very few.

Q. Did Ford show an interest in "Duco"?

A. Very little, sir.

Q. Did Ford adopt "Duco"?

A. We demonstrated "Duco" to Ford, and they used some black "Duco" on their truck production during this time. Ford eventually adopted "Duco," I think it was in the late 1920's—lacquer, I should say. It was of their own manufacture.

Q. It was of their own manufacture?

A. Yes, sir.

Q. Would you continue down there reading off the companies that are not General Motors units?

A. Well, I have that page, Lincoln, Ford. Let's turn to the next page, Hupmobile, Paige, American Auto Trim.

Q. What kind of a car did they make?

A. They were body producers. If I remember correctly, I think they made the Marmon body.

Q. Who is Dolan, who is referred to alongside of these cars?

A. He was one of our servicemen at that time.

Q. Working under you?

A. A comparable position to Cathcart.

[fol. 4181] Q. Will you continue, please?

A. Maxwell, Wilson Body; may I make this notation on Overland. I think it must have been a refinish account, which was not under my jurisdiction. Dodge, Rickenbacker, Studebaker—

Q. Were those all names of cars at that time?

A. Yes.

Q. I notice the next entry says: "Will visit St. Louis in December."

Did you make those visits?

A. Yes, Moon, Marmon, and I will have to strike out Morris, because that does not register with me at all. I don't remember it.

Q. You don't remember the Morris car?

A. No, sir. Chalmers, Reo, Lawson Body, Towson. They made a body.

Q. What did they make?

A. They made bodies.

Q. Do you know for what car?

A. No, I do not remember. The American Wood Rim, that was not an automobile manufacturer. They made a substantial quantity of steering wheels that were used on automobiles, and they were widely distributed. They were located in Michigan. And Packard.

Q. Is that the complete list?

A. Yes.

Q. Of the automobile companies with which you were conducting the experimental work from 1922 to 1925?

A. There may have been some others that I do not recall just at the moment.

Q. Now, referring to this entire period of experimentation with "Duco," will you state for us the nature of the problems that you encountered in your efforts to get

the automobile companies to put the "Duco" into production?

A: Well, Mr. Gribbon, when we left Parlin, we had done an awful lot of research work, and there never [fol. 4182] was any question in our minds but what we had discovered and perfected a material that would produce results far more satisfactorily as a car finish than anything that had been seen at that time.

Q: What occurred during this protracted period of experimentation?

A: Well, when you get into the plant, you run into difficulties. You have got to modify your materials at times to meet various plant conditions, and as we started to demonstrate these materials, we found a number of things that we had to do some additional work on, not detracting from the fact that we had the original film forming ingredients there, but still they needed some modifications to fit the conditions under which they had to be used.

Q: What were those specific problems you encountered?

A: The first problem we ran into was the lustre.

Q: What was the nature of that problem?

A: The material was flat when it was sprayed on. It was not acceptable from the viewpoint of appearance. We had to have some way to get that lustre up so that it would be acceptable to the trade.

Q: Was it the burnishing process that you have described?

A: We are still experimenting. We are trying to improve the lustre of our product. We are trying to build a product which has the lustre built into it.

Q: That would eliminate the rubbing compound?

A: No, it would not eliminate it entirely, but it would reduce the amount of the rubbing compound, also reduce the amount of labor.

Also, we believe from preliminary results, if we build the lustre into the material, we will get better field performance. [fol. 4183] Q: What was another of the major problems you encountered during this period?

A: Adhesion.

Q: Will you tell us briefly what the adhesion problem was?

A: Well, at that time, as I stated, we were testing this material on panels, and most of the jobs were being cleaned,

that is solvent cleaned. If you accelerate them or leave them out, you do not change the character of them. Your adhesion is a question.

So we had to find something which we could put on the job prior to the application of the top coat to secure satisfactory adhesion.

Q. Has that problem been eliminated in the use of "Duco" in auto finishes?

A. Yes, sir, it has.

Q. Was there a color matching problem?

A. Yes, sir, we had some trouble with matching colors, so when the units would decide they wanted a color, they would give us a color to match and sometimes we had some trouble but by and large that is behind us.

Q. Did you have other problems arising out of the pigmentation of your lacquers?

A. Yes, sir, we ran into some trouble in trying to improve the product from the standpoint of hiding power.

If you get too much pigment, you run into an erosion of the pigment which is like rust on a piece of metal.

Q. What would be the effect on the product?

A. It would be flat and dull.

Q. Now, Mr. Williams, let us turn to the operations of the automobile sales office. I believe you testified that that office was established in early 1925?

A. That is correct, sir.

Q. Where did the personnel for that office come from?

[fol. 4184] A. Well, we had with us about four men we had brought out from our Parlin laboratories at that time.

Q. And they were engaged in demonstrating "Duco" with you?

A. That is right.

Then we supplemented that personnel with the group that came in from Flint.

Q. From the Flint Varnish & Color Works?

A. Yes, sir.

Q. How many were in that group?

A. I think five or six.

Q. What had been the experience of the group?

A. Well, their experience was largely on old type finishes, and their experience was very valuable to us in pioneering and promoting the sale of undercoats, and we made a pretty good team by having these fellows, being thoroughly fa-

miliar with the undercoating situation, and the boys from our group that came out with us, being familiar with the topcoat situation, it worked out very well.

Q. Who was the manager of the office in 1925?

A. Mr. Walter J. Sohlinger.

Q. And had he come from Flint?

A. Yes, sir, he had.

Q. How long did he remain as manager of the office?

A. I think until 1928, sir.

Q. And by whom was he succeeded?

A. Mr. George A. Staples.

Q. And you succeeded Mr. Staples in 1943?

A. That is correct, sir.

Q. In 1949, which is the date of the filing of the complaint in this action, how many people were working full time in the Detroit automotive sales office that you managed?

A. Approximately forty.

[fol. 4185] Q. Now, is that the full extent of the help that you have in selling and servicing the automobile accounts?

A. Not by any means, sir.

Q. Will you explain what additional help you have?

A. Well, we have laboratories located at our various plants and I have men in those laboratories that are working on current problems that are always available for us if we need them for field problems.

Q. How many such men are there?

A. I think about thirty.

Q. Is there a name that describes that group of men in your sales activities?

A. We refer to them as field sales support.

Q. Sales support?

A. Yes, sir.

Q. Now, Mr. Williams, I want to direct your attention to the steps that du Pont has taken to maintain its position as a supplier of automotive finishes following the adoption of "Duco", and I would note that this morning Mr. Wirshing testified that General Motors, in determining the source of supply for finishes, looks carefully at the character of the service that is offered by a supplier.

Would you tell us what the major respects are in which service is a factor in supplying automotive finishes?

A. I think it is the outstanding factor in the solicitation and maintaining good will with our customers, service.

Q. More particularly, what are the factors of service that you must take account of?

A. You mean, what do they do?

Q. No, when you say "service", what do you mean?

A. I mean that we have men available to go in their plants [fol. 4186] on any type of problem that they have that would effect the ultimate performance of the finish.

Q. Does service cover deliveries as well?

A. Yes, sir, deliveries are a part of service. I thought you had reference to technical service.

Q. Does it cover ability to produce in volume?

A. Oh, yes, capacity is very important.

Q. How many plants does the du Pont Company have that manufacture automotive finishes?

A. I think there are seven.

Q. Could you tell us where they are located?

A. Oh, we have one in San Francisco; one in Fort Madison, Iowa; Chicago; Flint; Toledo; Philadelphia; and Parlin, New Jersey.

Q. Do you happen to know when the Parlin plant commenced to manufacture "Duco"?

A. Oh, back in 1922, I assume.

Q. And do you know when the Flint plant commenced to manufacture "Duco"?

A. I think it was in '24 or '25.

Q. Now, do any of these seven plants produce what you might call a full line of automotive finishes?

A. No, sir, they do not.

Q. But do they all produce some of the automotive finishes?

A. Yes, sir, they do.

Q. Now, in your experience in the sale of automotive finishes, has the number and location of your plants been an important factor?

A. Decidedly so, sir.

Q. Would you explain that further?

A. Well, if you have a geographical location, you are certainly in a much better position to render service as far as deliveries are concerned, as well as to supplement the deliveries with the technical service that goes along with it, [fol. 4187]

Q. Following the delivery of your products to a manufacturer, does the du Pont engage in further service?

A. We service the car until it is on the street.

Q. Could you tell us the nature of those service activities?

A. Well, our men call on their plants constantly offering advice in connection with the product that is being used in any particular plant.

Q. Do you call on the plants only when you get a complaint or a call that there is some trouble in the plant?

A. Oh, no, sir, we make periodic calls.

Q. How often do you make these calls?

A. We try to make them once a week.

Q. On all of your accounts?

A. On all of the major accounts, yes, sir.

Q. Are these periodic accounts confined to the General Motors units?

A. No, not by any means; all car manufacturers.

Q. Now, could you tell the Court why you find it necessary to make service calls on the auto manufacturers that are using your products, after the sale has been completed? Why is it necessary for you to go back in their plants and make these unsolicited calls?

A. Because there are so many problems that come up in a plant from day to day that you cannot pinpoint. It is necessary for our boys to police them constantly to find out whether the materials are performing as we anticipate they will if properly handled.

Q. When you say "police them," what do you have in mind?

A. I mean going in a plant and checking the vari-
[fol. 4188] ous operations to be sure that the mixtures are right and the viscosities are right, and that the right amount of air is being used with the gun during the atomizing process, and the temperature of the tanks where they dip enamel is kept normal, and many other things.

Q. Do these practices in the plant that you have mentioned have an effect upon the final appearance and performance of the finished product that you sell?

A. Very definitely so.

Q. Could you take for example the problem of thin undercoats that you mentioned and state how that has an effect upon the performance of the final product?

A. Well, thin undercoats, Mr. Gribbon, come from sanding too close to the metal. Now, all cars have contours, and

they have some stresses or strains or file marks in them, and when you apply a primer and then a surfacer coat, and then sand them down to a smooth surface on which to apply your top coats, naturally there are going to be areas where you are going to cut through.

Now, unless those areas are taken care of before the car goes into top coat, it is entirely possible that when they get in some locality where the humidity is high, or rains are prevalent, that moisture will get through the film, and that being the weakest link, it will start a blister at that point.

Q. On the final finish?

A. It will show up in the final finish.

Q. Now, are you suggesting, Mr. Williams, that your service men and salesmen in these inspection calls supplant the foremen and the paint superintendents in the auto plants?

A. We have nothing to do with the operation whatever, [fol. 4189], but we are very welcome, the doors are always open. These paint superintendents welcome our boys coming in.

Q. Now, in addition to the routine service calls such as you have described, do you do any further service in the sale of your finishing products to the auto companies?

A. Yes, we do.

Q. Of what character?

A. Well, we have men that are available in our laboratories for specific jobs.

For instance, supposing we are going to test out a new primer surfacer in one of the plants, and that requires a man going into that plant and staying for an indefinite period. He might be there for three or four days, or a week. Well, we cannot afford to take our salesman who is responsible for a number of accounts, to take the time to go in there and sit that program out. Therefore, we take one of the boys out of our laboratory that I refer to as sales support, and put him in that spot.

There are other instances where we run into trouble in the plants that maybe you cannot pinpoint it by a five minute call. Sometimes it is necessary for us to keep the man in the plant for days or weeks to pinpoint the trouble. It may be having an effect on the ultimate performance of the product, or also the appearance.

Q. I wonder if you could give us an example of the kind of breakdown in the paint line that you might be called upon to go out and take extensive efforts to cure?

A. I think so.

Q. Do you recall the incident of the dip primer?

A. I think so, yes, sir.

Q. Would you tell us the occasion of your being called [fol. 4190] to give assistance?

A. Well, this happened in the late thirties, if I recall correctly. I had a telephone call from the manager of the Southgate plant at Southgate, California, to the effect that he had shut down his line, and he said the trouble seemed to be in the dip primer—and he asked me how soon I could get there.

Well, we have some men that are rather adept in assisting or in sizing up difficulties with respect to dip primer, and I put him on one plane and I hopped on another, because we couldn't get on one, and we flew all night and got out there the next morning, and when we got there it was true the line was down and the men had been sent home, and I knew right away that we had to take some action promptly to get them back in production.

So we had a little meeting, and I suggested to the manager that we set up an improvised line and start spraying. It was on the hoods, and the fenders where the trouble was in this dip tank and it had settled out to a point where the materials were ropey, and there was no flow, and it was just separated.

So we set up this spray line, and in a short time we were able to recall the men and had the production going, and even though it was inconvenient, we were getting the cars out.

When you shut down a plant and lay off three or four thousand men, it is pretty costly. The dealers are not getting the cars, the employees are at home, have been sent home from work, and it is a very unfortunate situation. It so happens that when I got there we set up this improvised line, we set up a laboratory right in the plant, and I got in touch with one of our laboratories, which shows again the advantage of geographical location, and I had the men come [fol. 4191] down with a few test-tubes and beakers, and we

set up the laboratory and set out to find out what we could do to save the tank.

They had 12,000 or 15,000 gallons of material that they didn't want to throw away, and that is costly, too. So after trial and error between the representatives that I got from the laboratory and myself, we were able to come up with a compatible mixture by taking some of the old stuff that was bad and adding new stuff with it, and adding richer solvents, and we saved the tank and got them back in production.

Q. How long did that take?

A. About two and a half or three weeks.

Q. Did you stay in Los Angeles during that entire period?

A. Yes, sir.

Q. What was the difficulty with the tank?

A. Well, we think, and I think this is correct, that they were adding solvents for thinner that had been purchased locally that were incompatible with the primer proper.

Q. Had you sold this plant the primer?

A. Yes, sir, we had.

Q. Had you sold them the solvents?

A. No, sir, we had not.

Q. Did you sell the solvents you used to cure the difficulty?

A. We sold them the solvent to cure the difficulties, but after that time we didn't sell it any longer. Just long enough to get it back in the stable state.

Q. Then you no longer sold them solvents?

A. Yes, sir.

Q. Did you put a charge on your services out there for putting the dip tank back to working order?

A. That is part of our service, sir; no charge.

[fol. 4192] Mr. Gribbon: Does your Honor want to take a recess?

The Court: The court stands recessed for fifteen minutes.

(A recess was here taken.)

By Mr. Gribbon:

Q. Mr. Williams, does the du Pont Company maintain laboratories for the development of finishing products?

A. Yes, sir, we do.

Q. How many laboratories does the finishes division operate?

A. Oh, we have a service laboratory in each of the plants.

Q. What is a service laboratory?

A. Well, in all of our plants where we are manufacturing a varied line of finishing materials, naturally you need some counsel with the chemist, and fellows who have actually been active in helping to formulate the material, and we refer to them as service laboratories. Wherever we have a plant location, we have a service laboratory.

Q. What is the character of the work that is referred to these service laboratories?

A. Well, if we are in trouble on a serious color matching trouble—maybe someone might give us a color to match that we would have difficulty matching, why, it is their problem. If we find that our viscosities are not in keeping with what we need for our standard practice, that is referred to them.

You may run into a blistering epidemic, something like that. That is referred to them to evaluate the finish on the same basis as it has to be used in factories and production units to see if they can correlate the result.

Q. Now, does du Pont do research on finish products [fol. 4193] other than in these service laboratories?

A. Yes, sir, we do.

Q. Where do you do that?

A. We have three laboratories where we do basic research.

Q. Where are they located?

A. Well, we have a laboratory at Flint, Michigan, which I think you could refer to as a basic laboratory, basic research laboratory, and we do most of the research work on undercoats and some top coats, particularly lacquers.

We have a research laboratory in Toledo, Ohio, and most of the research work there is confined to enamels.

We have a research laboratory in Philadelphia which is a sort of daddy of research. Any problems we cannot cope with in either of the other two laboratories will be submitted to Philadelphia, and also we get a great deal of information—a great deal of information emanates from the Philadelphia laboratory because they do research on all products, every conceivable combination.

Q. How does the character of the work done at the three research laboratories you have just described differ from that done at the service laboratories?

A. Well, theirs is more of a fundamental research. In other words, when we are looking for new developments. Suppose we are trying to develop a new primer or a new surfacer, or a new top coat, something of that sort, where there is a major improvement—if we are looking for a major improvement, we refer it to one of the fundamental research groups.

If it is something that needs minor modifications, it is handled by the service group.

Also, I think I should add, that the service group is of a great deal of assistance to the plant in the production of [fol. 4194] the materials. Naturally they run into problems from time to time that require counsel, and we use the service group for that.

Q. Now, Mr. Williams, since the introduction of "Duco", have there been improvements in the products used and methods used in finishing automobiles?

A. Yes, sir, we are constantly searching for new and effective improvements. Now, over a period of years, since the introduction of "Duco", there have been some very gradual improvements.

Now, it is rather difficult to point to something that is of great significance through these gradual improvements, so if you look at the "Duco" of today, I think you could parallel it with the car of today.

If you look at an automobile on the street of the 1920 vintage, and look at an automobile of today, there have been some tremendous improvements. We parallel our work on a good many products, and our research people have succeeded in making minor changes from time to time that we feel give us a much better merchandising product than we had when we started.

Q. I suppose that other suppliers of the finishes have been working towards improvements of their products?

A. Oh, very definitely, sir.

Q. Can you tell us of any contribution, significant contribution, since "Duco" that the du Pont Company has made to the automotive industry?

A. I can think of several.

Q. Can you tell us what they are?

A. Well top coats have been mentioned.

Q. What has du Pont produced that has significant advantages of top coats?

[fol. 4195] A. Well, we introduced a new line of lacquers to supplement our line of lacquers for "Duco", referred to as "Metalli-Chrome."

That is spelled M-e-t-a-l-l-i-c-h-r-o-m-e. Maybe I could describe just briefly what that means.

Chrome means or certainly is indicative of brilliance, and metal means there are metal particles added to it, so it is a compound word. "Metalli-Chrome" is a development that came out in 1945 which is of major significance, and it resulted from cooperative study between our pigments division and ourselves, our laboratories, that resulted in very much more brilliant shades being available, and particularly in certain groups of colors, the greens and browns particularly, and we not only--the cooperative effort not only gave us an opportunity to introduce something that had more brilliance, but we introduced something that was much more durable from the viewpoint of color checking and chalking, and so forth.

Q. What accounted for the increased durability of "Metalli-Chrome" lacquer?

A. It is the method of incorporating the pigment in the vehicle. During that intensive study, they found that by incorporating the pigments with the vehicle through some other means that had not been used prior to this time, they were able to accomplish these results.

Mr. Gribbon: I should like to refer to an exhibit that has been identified as Defendants Exhibit DP 192. I think in your Honor's book it is one or two beyond the place where you are now.

This is an excerpt from a report by the Fabrics and Finishes Department of the du Pont Company for April of 1946, dated May 22, 1946.

[fol. 4196] I should like to read, with the Court's permission, the first paragraph:

"A new and patented finish, "Duco" Metalli-Chrome," was formally introduced to the automobile industry at an exhibit in the Masonic Temple in Detroit, Michigan, on May 8th. The latest models of eleven

new automobiles had been finished with the new product and were exhibited. Also on display was a car which had been finished with 'Duco Metalli-Chrome' about five years ago and had since been in constant use. The new models consisted of Buick, Cadillac, Chevrolet, Ford, Lincoln, Mercury, Hudson, Nash, Oldsmobile, Packard and Pontiac."

Skipping down to the last sentence in the next paragraph:

"About 250 representatives of competitive lacquer manufacturers viewed the exhibit on May 9th and were informed that licenses under the 'Duco Metalli-Chrome' patents would be offered in the near future.

"The exhibit aroused considerable interest in the new finish and indications are that it will be used extensively by the automobile industry."

By Mr. Gribbon:

Q. Have the "Metalli-Chromes" been used extensively by the automobile industry?

A. Yes, sir. They have been adopted very extensively.

Q. Have there been other improvements in finishing?

A. Yes, sir.

[fol. 4197] Q. That the du Pont Company has been responsible for since "Duco"?

A: Yes, sir.

Q. Would you explain?

A. We pioneered the dip primer process.

Q. That is the process that you explained where you were called out to Los Angeles, the process by which they finish the hoods and fenders, is that correct?

A. That is right, sir.

Q. Have you been successful in selling the automobile industry widely on dip primer?

A. We sell substantial quantities to many automobile companies.

Q. Do you sell to Oldsmobile?

A. No, sir, we do not.

Q. What was the date of the initial dip primer development?

A. It was in the thirties—

Q. Excuse me. Are you finished?

A. I was going to give the circumstances that led up to it.

Q. Would you give us those circumstances?

A. Very briefly.

Small parts were being dipped in the plants at the time that this idea was born, and somebody conceived the idea that if you could dip small parts, why not dip fenders and hoods.

So, with the cooperation of the Buick people we put in an 800 gallon tank and started in to develop a product which we would dip.

It is a very tricky process, because when you consider, if you take the hood off your car and stand it beside you it would be taller than you are, and I don't think anyone has realized that. When you dip that in a tank, the material has to be so designed that the film at the top is appreciably the same as the film at the bottom.

First you have to design a material that would take that [fol. 4198] flow so that you would have a homogeneous film, and have the same protective layer at the top as you have on the bottom.

We accomplished a lot by that development. In the first place, you don't have to under coat the back of the hood because that primer acts as a protective coating. Before that, you had to spray under that hood.

It gives you a continuity of flow of material in your plants. Once these materials come out of the cleaning tank and are hung on a chain, they remain there, go on through the tanks strictly automatic until it is taken off at the end of the line.

It is a very much cleaner operation because you don't have the spray dust all over the room.

Of course, there is the economy factor. All you do is hang them on the line and take them off at the other end of the line, so you don't need the necessary labor that it took to spray them previously.

Q. Have there been additional improvements on your primers since the initial introduction?

A. Of this type?

Q. Yes.

A. Yes, sir. We have improved them appreciably from the viewpoint of shock resistance.

At one time the primers would not stand much shock. I mean by that that if you were driving over a gravel road,

and the front of your car was exposed to the gravel flying up from the man ahead of you, and it would hit, it would go all the way through to the metal. We have improved that now so the primer underneath will take up the shock, and the fracture will not go through to the metal and cause you any rusting areas at that point.

[fol. 4199] Mr. Gribbon: I should like to refer now to du Pont Exhibit that has been marked for identification as DP 191, which is an excerpt from the monthly report of the Fabrics and Finishes Department to the Executive Committee, for May, 1947, and dated June 27, 1947.

With the Court's permission, I would like to read the first paragraph:

"A sheet metal primer is a vital part of the finishing system in an automobile plant. The primer is used in large tanks of eight to ten thousand gallons capacity and all of the sheet metal, including hoods, fenders, and miscellaneous parts, are primed by dipping in these tanks from a conveyor line. For some years, du Pont has been the principal supplier of this type of primer to the Automotive industry."

Skipping down a paragraph, to the third paragraph, first sentence:

"During the past year the Flint Laboratory developed a new sheet metal primer that has improved our position in the field."

I should like to offer in evidence du Pont Exhibit DP 191.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 191.)

By Mr. Gribbon:

Q. I note this exhibit, Mr. Williams, states that the primer that you have described is usable on hoods and fenders. Is it possible to dip bodies?

A. There have been some efforts made, Mr. Gribbon, in [fol. 4200] the past to dip bodies. I think it has been tried in some other countries. Naturally when any attempts of that type are made, the people in this country, wanting to be abreast of any developments, took advantage of it and

have made some observations. But so far no one in this country has found it practical to dip bodies.

Q. Has du Pont effected any improvements in undercoats for bodies?

A. Very definitely so.

Q. What is that?

A. We pioneered the primer surfacer, which is just coming into use. The primer surfacer composition is comparable to a combination of the primer and the surfacer that I testified to earlier.

The beauty of the primer surfacer is that it can be put on in one application, and we find by putting this on in one application you have a saving in labor. You can cut out a spray booth because you don't have a double operation. Also we find that putting it on in one operation we get a smoother flow and it lays down smoother.

It also has a tendency to hold the finish up, so that you have more depth in the final finish.

Now our objective, by introducing material like this, is a product that will not require any sanding. Perhaps the messiest job in an automobile plant is the wet sanding. Men stand up there, stripped to their waists, and have got this sand paper and water all over them, and oxide and water all over the floor, and it is a dirty, sloppy, mess.

I have been told many times by the managements of any number of car producers that the company that comes out with a non-sanding primer surfacer will certainly have a gem. Our efforts have been directed in that direction for a long time, our research efforts.

We have now gotten past the research stage, and are in [fol 4201] the process of testing material. We actually have it used in some plants, and we hope the next jump will take us one step nearer to our ultimate goal.

Q. Do other finish suppliers now have a primer surfacer also?

A. Yes, sir.

Q. Has the primer surfacer been broadly adopted in the automobile industry?

A. I can't say broadly, but it is being used in a number of plants. I could name several in which it is now in use.

Q. Turning now to thinners, the element in the top coat and under coat family that you haven't yet mentioned, have

there been any significant developments in thinners since the introduction of "Daco" back in 1924 and 1925?

A. I think so, Mr. Gribbon.

Q. Will you describe them briefly?

A. Well, we had so many other things that required the attention of our chemists and chemical engineers that for a long time thinner was considered just something that you turned the petcock on and let it run out like you would in a gasoline station. But that has proven not to be the case at all.

Thinner has the function of reducing material so it can be sprayed on the job, and it can't be applied so richly as to permit it to run off the job. On the other hand, it can't be applied so that it doesn't have the rich solvents that will make it flow and not set up too fast and look like concrete.

So it is a very delicate balance of properties.

In working out some of the delicate balance of properties, we have discovered some combinations of solvents that permit us to make what we now refer to as the high build thinners. Now what this high build thinner does essentially [fol. 4202] is to permit us to put the same film on with less strokes of the gun.

It lays down smoother. It requires less polishing. We get the economy of having less men put it on. We get the economy of having less men rub it. We also think it gives some advantage in the ultimate lustre.

Q. Has there been any milestone development in the case of thinners, comparable, say, to your "Metalli-Chrome" in the case of top coats?

A. I don't think that it has been that revolutionary.

Q. Just a gradual improvement over the years?

A. That's right, but I do think, Mr. Gribbon, that if we continue to direct our attention to thinners, that we haven't reached the Utopia by any means.

Q. Now, Mr. Williams, I would like to turn to a few questions regarding the extent of your success in selling these various finishing products, first to the General Motors car units, and Mr. Wirshing testified on General Motors' purchases with respect to top coats and undercoats, and I wish to direct your attention only to one product in those categories and that is the surfacer.

Leaving aside the primer surfacers, that you have just mentioned, what is the composition of the surfacer that du

Pont is currently selling to the automobile industry?

A. Well, it is a combination of oils and pigments, and driers, as I described earlier in my testimony.

Q. Now, does du Pont also offer a pyroxylin base surfacer?

A. Yes, sir, we do.

Q. Is that used in the automobile industry?

A. Not any more, sir.

[fol. 4203] Q. Was it used at one time?

A. Quite extensively, yes.

Q. Where is it used now?

A. Largely in the refinish business.

Q. Do you recall that at one time, or do you recall whether du Pont made an effort to sell a pyroxylin surfacer to the automotive industry?

A. Very definitely we did, sir.

Q. What was the approximate date of that, if you recall?

A. I think it was in 1924.

Q. Was it early in the days of "Duco"?

A. Yes, after we came out with "Duco" we tried to promote the sale of a pyroxylin surfacer along with the "Duco."

Q. The pyroxylin is the same base from which the "Duco" is made?

A. Essentially the same base, yes, sir.

Q. I would like to refer you to an exhibit marked DP-193.

This is an excerpt from a report of the Chemical Products Divisions to the Executive Committee of du Pont of March, 1926, dated April 19, 1926, and with the Court's permission I should like to read the paragraph at the bottom of the page under "Experimental":

"A complete pyroxylin system for automobile finishing, including primer, putty and surfacer, has been perfected to a degree that we feel warranted in offering it to those manufacturers who need the extra speed of operation offered by such a system, and substantial orders have been received for these products."

Does this refresh your recollection, Mr. Williams, as to the approximate date of the commencement of your selling efforts on the pyroxylin surfacer?

A. I think so, yes, sir.

Q. Did you continue to attempt to sell pyroxylin surfacer for the few years following?

A. Yes, and we were quite successful in selling it.

Mr. Gribbon: Before I go on, I would like to offer in evidence DP 193.

(Said document so offered and received in evidence was marked du Pont Exhibit No. 193.)

Q. Would you refer to a letter that has been marked as Government's Trial Exhibit No. 470 which is a letter dated October 28, 1926 from Lammot du Pont to Alfred P. Sloan, the first paragraph of which reads:

"Our Paint Department tell me they have developed a pyroxylin surfacer for automobile bodies"—

Did you know that this letter was written at the time, Mr. Williams?

A. No, sir, I did not.

Q. Did you urge any of your superiors to get in touch with Mr. Sloan or anybody else in General Motors with respect to this pyroxylin surfacer?

A. No, sir, I did not.

Q. I should like also to have you look, if you will, Mr. Williams, at a further series of exhibits reflecting correspondence on this pyroxylin surfacer. They have been heretofore marked in evidence as Government's Exhibits 471, 472, 475, 476, 477, 478 and 479. Were you familiar with this correspondence, Mr. Williams, at or about this time in 1926?

A. No sir, I was not.

Q. Were you attempting to sell pyroxylin surfacer to the automobile trade at that time?

A. Yes, sir, we were.

Mr. Gribbon: I would like to read, with the Court's permission, the last paragraph of Government Trial Exhibit No. 479, which is a letter from Mr. Lammot du Pont to Mr. John Pratt, dated December 17, 1926. It reads:

"As far as we know, there are no companies using our pyroxylin undercoating which are having any serious difficulty. From such information as I can se-

cure I am convinced that G.M. is making a mistake in not adopting pyroxylin undercoatings, and hope that you or someone else will see that the matter is given careful consideration."

By Mr. Gribbon:

Q. Did you at or about this time in 1926 or '27 make any sales of pyroxylin surfacer to any automobile companies?

A. Yes, sir, we did.

Q. To which companies did you sell the pyroxylin surfacer?

A. Nash, Marmon, Chrysler.

Q. Did these companies use this pyroxylin surfacer in substantial amounts?

A. Very definitely, yes.

Q. What were the alleged advantages of the pyroxylin surfacers?

A. Quicker dry was the principal advantage. We thought there was some advantage in hold-out, and by "hold-out" I mean that the finish sat up on top of the surfacer better than it did in the old type.

Q. Did these companies, Chrysler, Nash and Marmon, subsequently discontinue the use of pyroxylin surfaces?

A. Yes, sir, they did.

Q. Do you know why that was?

A. I assume they found other materials that they thought would be just as satisfactory at lower cost.

[fol. 4206] Q. Did you ever sell a pyroxylin surfacer for use by Fisher Body for any of the General Motors units?

A. No, sir, we never did.

Mr. Gribbon: I would like to refer to your Honor to an exhibit which has been marked as DP-194, which is an excerpt from the monthly report of the Paint, Lacquer, and Chemicals Department to the Executive Committee of du Pont, dated June 20, 1927, and I would like to read the final paragraph of that excerpt on the second page.

I note the date of this is 1927, and it reads:

"It has finally been decided by the Fisher Body Corporation not to adopt our pyroxylin surfacer as an undercoating material, but to continue the use of oil-type products purchased from competitors. They

claim its higher price results in a net increase in cost per body, after allowing for the savings due to faster production and elimination of high-temperature ovens. They also object to it on the ground of increased fire hazard."

I would like to offer in evidence DP-194.

(Said document so offered and received in evidence was marked du Pont Exhibit No. 194.)

By Mr. Gribbon:

Q. Will you refer to an exhibit that has been marked Government's Exhibit No. 496, which is a series of excerpts from the report of the Fabrics & Finishes Department to the Executive Committee dated July 20, 1929.

Will you read the last paragraph of that excerpt? [fol. 4207] Is the pyroxylin product referred to in that paragraph a surfacer?

A. No, sir.

Q. What is it?

A. It is a ground coat.

Q. Where does a ground coat fit into this finish system?

A. At one time, during the finishing of automobiles with color varnishes and finishing varnishes, the hiding power of some of the coloring varnishes was very low, and to compensate for the low hiding power in the color varnish, they would put on what was referred to as a ground coat, which was a higher pigmented coat, and had the effect of hiding the undercoats.

When we got into "Duco", naturally we had some problems with respect to hiding in some colors, and to compensate for that, we developed and offered for sale a pyroxylin ground coat, which was, of course, compatible with the top coat that would go over it.

Q. Did you continue to sell that for any length of time?

A. Not for any length of time, because the art developed to a point where we had very little trouble as far as producing satisfactory formulas now that would give us adequate hiding.

Q. Did you, after the date of this report, July 20, 1929—do you recall that you had ever been successful in selling to the Fisher Body pyroxylin surfacers?

A. No, sir.

Q. What has been the extent of your success in selling them any kind of surfacer?

A. We sold them a primer and surfacer for one plant.

Q. Was that in substantial amounts?

A. Well, not substantial in comparison with their total requirements.

Q. How many plants does Fisher operate?

A. I think approximately fourteen.

[fol. 4208] Q. I should like to turn now, Mr. Williams, to a few of the other products mentioned on that list, to DP 176 which were not mentioned by Mr. Wirshing in his testimony.

Looking at rubbing compounds, which is just underneath top coats, to what extent have you been successful in selling General Motors units rubbing compounds?

A. We make rubbing compounds and offer them for sale, but we do not sell them in substantial quantities, but they are used in very substantial quantities. There are two concerns that have spent a lot of time developing rubbing compounds that really enjoy the major share of the business.

Q. What was the occasion for the use of rubbing compounds in the finishing system?

A. Why, it was developed to bring out the lustre by the rubbing and burnishing process that I referred to earlier.

Q. Did you at one time sell substantial amounts of rubbing compounds?

A. Yes, sir, we did.

Q. Do you sell them now to any of the General Motors plants?

A. In small quantities, to a few.

Q. Who are the two companies to which you refer that have concentrated on rubbing compounds?

A. McAleer Manufacturing Company, and the Snow Flake Company, both of Detroit.

Q. Will you refer next to chassis enamel which is on that list, and tell us the extent to which you have been able to sell any significant amount of that to the General Motors units?

A. We sold very insignificant amounts of chassis black to General Motors units.

Q. Did you at one time sell a substantial amount of chassis black to General Motors units?

A. Yes, sir, we did.

[fol. 4209] Q. What has been your observation of the reason for that loss?

A. It is my opinion that other producers of chassis black have given them something that is better for the job at lower cost.

Q. What about the motor enamel? What has been the extent of your success in selling General Motors units motor enamel?

A. Not very good.

Q. I presume the car units are the ones that use the motor enamel, is that right?

A. That is correct.

Q. Do you sell any car units motor enamel?

A. We sell Buick Motor only.

Q. You sell to none of the others?

A. No, sir.

Q. Refer now, if you will, to the product, interior enamel. I believe you stated they are used for the finishings, moldings and hardware that go into the automobile?

A. That is right, sir.

Q. To what extent have you been successful in selling interior enamels to General Motors units?

A. Our success has not been very satisfactory up to the present time.

Q. Could you elaborate further on that?

A. Well, at one time, the Ternstedt Manufacturing Company used most of the interior enamels.

Q. That is a division of General Motors?

A. That is a division of General Motors, for decorative purposes, and at one time when they were making moldings that were transparent, and had a grain effect, we succeeded in selling them a color "Duco" for top coats, but they have discontinued the use of lacquer, and went to a synthetic type of material some years back, and it was an economy move. We have only been partially successful in obtaining that business.

[fol. 4210] Q. Did you sell a significant amount of interior enamel?

A. Yes, we sold significant amounts. They had three plants.

Q. You sold at all three?

A. We sold some at all three.

Q. Will you refer further to DP-176. Which of the products listed there are the most important measured by the volume consumed in finishing an automobile?

A. The top coats would be one.

Q. Are there others?

A. Primers, too.

Interior enamels, surfacers, and rubbing compounds.

Q. Now, I take it you are referring in your assessment of the importance of these only to those products which the du Pont Company manufactures and offers?

A. That is right, sir.

Q. You are not referring to sandpaper?

A. We do not make that product.

Q. Now, of these products that the du Pont Company manufactures, which is the most complex from a manufacturing point of view?

A. Top coats, by all odds.

Q. Why is that?

A. Because you are involved with so many variables in the development of formulas for top coats that you are not involved in in some of the other items.

For example, we have in our files possibly eighteen or twenty thousands colors we have developed over the period of years, but we do not have enough range to suit the public, so we are constantly in search of new pigments that we can incorporate in these vehicles to produce new shades.

Every time you introduce a new pigment, you introduce a new problem. Making a lacquer is not just taking a little lamp black off the shelf and putting it into some vehicle and stirring it up.

[fol.-4211] You have a combination of pigments, and the degree of accuracy and care in which the research goes on prior to the introduction of any color is a very, very important and painstaking job.

Now, we find that you could use some pigments in a proportion that would throw the entire formula out of balance, and we have trouble with chalking and checking and a number of other things. It is very important, and by all odds it is the most important one.

Mr. Gribbon: If the Court please, I should like to offer in evidence Defendants' Trial Exhibit No. 195.

(Said document so offered and received in evidence was marked du Pont Exhibit No. 195.)

Mr. Gribbon: If I may explain briefly how that fits in here, I should suggest that it be read in conjunction with Government's Trial Exhibit 504, a copy of which is in your Honor's book, and that exhibit has set forth the sales that the du Pont Company has made to General Motors Corporation for the years 1938 through 1947, and the first seven months of 1948, and the sales are broken down in accordance with the Department of the du Pont Company that made the sales.

Exhibit No. 195 takes the years 1938 to 1941, omitting the war years when auto production was down, and 1946 and 1947, and shows two things. It shows the dollar volume of the total du Pont sales to General Motors represented by all finishing products, and the dollar volume of the finish sales represented by "Duco."

[fols. 4212-4213] For example, for the year, 1946, it will be seen from Government's Exhibit No. 504, that the du Pont total sales to General Motors in that year were 15,082,000 dollars. Now, of that \$15,000,000.00, the Fabrics and Finishes Department of the du Pont Company accounted for \$12,541,000.00 in sales.

Now, looking at the du Pont Exhibit No. 195, of the \$12,541,000.00 in sales of the Fabrics and Finishes Department finishes accounted for \$10,429,000.00. That is the total of all the finishes, and then of that \$10,000,000.00 totals sales of finishes, "Duco" sales amounted to \$6,911,000.00, or almost \$7,000,000.00 out of the \$10,000,000.00 sales of finishes.

This is a convenient time, your Honor, to adjourn.

(Adjournment)

[fol. 4214] Mr. Harris: If your Honor please, I am now offering Government's Exhibit No. 1314, which we spoke about yesterday. I said that I would give counsel a copy of the answer to the interrogatory, and this is it. Counsel now has a copy.

The Court: Are there any objections?

Mr. Cox: No objections.

(Said document so offered and received in evidence, was marked Government's Exhibit No. 1314.)

The Court: Proceed.

Mr. Gribbon: May I first offer in evidence at this time two exhibits which I referred to yesterday, du Pont Exhibits 189 and 192.

(Said documents so offered and received in evidence, were marked du Pont's Exhibits Nos. 189 and 192.)

Direct examination (Continued)

By Mr. Gribbon:

Q. Mr. Williams, yesterday afternoon we were discussing the du Pont efforts to sell pyroxylin surfacers to General Motors. I wish to clarify a portion of the transcript there. Were you ever successful in selling Fisher Body Com-[fol. 4215] pany the pyroxylin surfacer that du Pont put out?

A. No, sir, we were not.

Q. Were you ever successful in selling pyroxylin surfacers to any of the other units of General Motors that used surfacers?

A. No, sir, we were not.

Q. Now, at the close of yesterday's session we were referring to du Pont Exhibit 195, which reflected the dollar volume of du Pont sales of finishing products to General Motors.

Mr. Williams, do you know the total volume of General Motors purchases of finishing requirements?

A. No, I do not.

Q. You do know that General Motors is a substantial purchaser of finishing products?

A. Yes, sir, I do.

Q. You do know that General Motors purchases substantial quantities of finishing products from du Pont?

A. Yes, sir, I do.

Q. Does anyone in General Motors report regularly to you the General Motors volume of purchases of finishing products?

A. No, sir, they do not.

Q. Did anyone in General Motors ever report to you General Motors total purchases of finishing products over a given period of time?

A. No, sir, they never have.

Q. Do you know the percentage of General Motors total finish requirements that the du Pont Company supplies?

A. No, sir, I do not.

Q. Have you ever been advised by any du Pont officer or any of your superiors that there is an agreement between du Pont and General Motors that requires General Motors to buy all or substantially all its finishing requirements from du Pont?

A. No, sir.

[fol. 4216] Q. Has anyone in General Motors ever advised you of the existence of any such agreement?

A. They never have.

Q. Has anyone in General Motors ever told you that they purchased "Duco" or any other finishing product from du Pont because du Pont owns stock in General Motors?

A. No, sir, they never have.

Q. Have you personally ever urged anyone in General Motors to buy your finishing products because du Pont owned stock in General Motors?

A. I have not, sir.

Q. Have you ever urged your salesmen to make such arguments to General Motors?

A. Certainly not.

Q. Why not?

A. I think it would be a very poor approach, and I think it would be to our disadvantage to attempt to get business on that basis. As I know the managers of the car divisions and accessories divisions, they are primarily interested in quality and service, and I think if you went into one of the plants, and started to discuss that subject, you have just called to my attention, they would say, "If you cannot sell your products on the merits, you had better get out."

Q. Have you ever recommended to any of your superiors in the du Pont Company that they attempt to urge General Motors or any General Motors' executive to buy finishes from du Pont because of du Pont's stock interest?

A. No, sir, I never have.

Q. Do you know that certain of the du Pont officials are directors of General Motors Corporation?

A. Yes, sir.

Q. Which officials do you know to be directors of General Motors?

A. Mr. Walter Carpenter and Mr. Henry B. du Pont.

Q. Are those the only officials of du Pont that you know of to be directors of General Motors?

A. Yes, sir, as far as I know.

Mr. Harris: That is of now, Mr. Gribbon?

By Mr. Gribbon:

Q. As of the present time?

A. Yes, sir.

Q. Do you know Mr. Carpenter?

A. Yes, sir.

Q. Do you know Mr. du Pont?

A. Yes, sir.

Q. Have you ever urged either Mr. du Pont or Mr. Carpenter to help you sell finishing products to General Motors?

A. No, sir, I have not.

Q. Do you know Mr. Angus Echols?

A. Yes, sir.

Q. Do you know Mr. Lammot du Pont Copeland?

A. Yes, sir.

Q. Have you ever urged either of them to help you sell finishing products to General Motors?

A. I never have, sir.

Q. Turning, Mr. Williams, to the sales that you make or attempt to make to auto manufacturers other than General Motors, will you tell us whether you have sold finishing products in substantial volume to auto manufacturers other than General Motors?

A. Yes, sir, we have.

Q. To which ones?

A. Well, following the introduction of "Duco", as soon as the car units became interested, it was a matter of a very short time before the other car producers became interested, and we were very busy making demonstrations all over the [fol. 4218] country to the other car units, and we succeeded in getting "Duco" adopted by a number of concerns.

Q. Will you name some of them?

A. Yes, sir. Hupmobile, Cleveland Chalmers, Gardner, Franklin, Marmon, Chrysler and Nash.

Q. Did you thereafter sell your finishing products to those Companies?

A. A great many of those concerns went out of business, but we do continue to sell our products to a number of those concerns who are still in business.

Q. Which of those concerns have you continued to sell to?

A. We have continued to sell to Nash, Studebaker, Hudson, Packard.

Q. How about Willys?

A. We sell to Willys, yes, sir.

Q. Have you sold those concerns since the adoption of "Duco"?

A. Yes, sir.

Q. Continuously?

A. Yes, sir.

Q. Which are the finishing products you have been most successful in selling to these other automobile concerns that you have mentioned?

A. Top coats principally and some undercoats, too.

Q. Are those the same products you have succeeded in selling to General Motors in quantity?

A. Those that use lacquer as topcoats, yes; those that use synthetic enamel, yes.

Q. What has been your experience in selling your finishing products to the Ford Motor Company?

A. As I testified yesterday, Mr. Gribbon, in the '20's, we were successful in selling to Ford some material for trucks, but later, in the late '20's, Ford went into the manufacture of nitrocellulose lacquers themselves, and they adopted it and used their own manufacture as long as they used [fol. 4219] a nitrocellulose type of finish. In the early '30's, Ford switched from nitrocellulose finish to synthetic enamel finish, and we succeeded in selling them a substantial quantity of both undercoats and top coats.

Q. How long did those sales continue?

A. Well, near the end of the 1930's.

Q. What happened at that time?

A. We lost the business.

Q. Do you know the occasion of your losing the business?

A. Yes, I was calling on the Ford director of purchases, and he told me that Mr. Henry Ford had issued instructions

that the Ford Motor Company was not to purchase any more material from the du Pont Company.

Q. Were you advised as to any reason for this instruction by Mr. Henry Ford?

A. No, sir, I was not.

Q. Did you ever thereafter sell any finishing products to the Ford Motor Company?

A. Yes, sir. When Mr. Henry Ford II started to take active participation in the management of the Ford activities, I called on him and I told him that I was unhappy about our Ford relationships. He said that he thought that the du Pont Company, with all of its research facilities and capacity, had something Ford could use, and he thought at the same time that Ford had something that we could use, which, of course, was true.

He said that he saw no reason why we should not start to submit samples to their purchasing department and their technical laboratories, and if we could give them proof we would be judged on our merits, and if we got the business, why, we would do it in the way that Ford would customarily do business with other sources.

[fol. 4220] Q. When did this conversation with Mr. Henry Ford II take place?

A. I think, Mr. Gribbon, it was just about the end of the war.

Q. And did you thereafter succeed in making sales of finishing products to Ford?

A. Yes, sir, we have. We sell Ford very substantial quantities of top coats.

Q. You do it at the present time?

A. Yes, sir.

Q. Has Ford ceased to manufacture its requirements of finishing products?

A. No, sir, they still have a paint plant and manufacture very substantial quantities of paint requirements.

Mr. Gribbon: I should like to offer, your Honor, exhibit marked DP 196, an excerpt from the monthly report of the Fabrics and Finishes Department to the du Pont Executive Committee, dated August 23, 1946, and read, if the Court please, the first paragraph of that excerpt:

"Further progress can be reported in developing better trade relations with the Ford Motor Company,

which recently placed with us orders for more than \$110,000 worth of DULUX for finishing cars. In tendering us that business Ford expressed the hope that such action would mark the beginning of long and pleasant relations between Ford and du Pont."

(Said document so offered and received in evidence was marked du Pont's Exhibit No. 196.)

By Mr. Gribbon:

Q. Mr. Williams, this excerpt that I have just read refers to "the beginning of long and pleasant relations" between Ford and du Pont. Would you say that is an accurate statement?

A. Yes, sir, our relations are very pleasant.

Q. And had you, prior to this time, sold Ford?

A. We had sold Ford in the thirties, as I indicated, and later started selling them after the war.

Q. Now, let me ask you, do Ford and the other auto manufacturers, that you have mentioned being substantial customers of du Pont, buy also from other finish suppliers?

A. Yes, it is customary in the automotive industry to have several sources of supply.

Q. More specifically, what do you mean by "several" in the case of Ford and these other companies?

A. Well, they will have three or four prime suppliers in addition to their own manufacture.

Q. Is Ford the only manufacturer of automobiles that makes his own paint materials?

A. As far as I know, sir.

Q. What, Mr. Williams, has been your experience in the sale of finishing products to the Chrysler Company?

A. Well, when we introduced "Duco" we were quite successful for a period, I think, through the twenties, and we sold Chrysler substantial quantities of both under coats and top coats, lacquer type. In the thirties—

Q. Would you date that a little closer?

A. The early '30's—I was called into Mr. Keller's office. As a matter of fact, I initiated the call because our sales were beginning to drop off.

Q. Who is Mr. Keller?

A. Well, he was, I think, assistant general manager in charge of operations at that time.

Q. At Chrysler?

A. Yes, sir.

Q. Would you tell us the circumstances of your visit to Mr. Keller?

A. Well, our sales were beginning to drop off at Chrysler, [fol. 4222] and I was concerned about it, and I went in to talk to him about it, and Mr. Keller told me that he thought the best interests of the Chrysler Division would be served if they could find some supplier that would look upon Chrysler as the customer, and he thought that they had just about lined up someone who could take care of almost their full requirements.

Q. Did Mr. Keller advise you that there was any complaint about your materials or service?

A. None at all, sir.

Q. What did he say with respect to those factors?

A. He said that our service and performance of our products was very satisfactory.

Q. Were you thereafter successful in obtaining any significant amount of Chrysler's business?

A. We sell Chrysler a substantial quantity of materials, but it is insignificant in relation, I would judge, to their total requirements.

Q. From your observations was Chrysler successful in carrying out the policy that Mr. Keller described to you?

A. As far as I know they have done so, sir.

Q. Yesterday, Mr. Williams, in describing the responsibilities of the Detroit sales office, you referred not only to the sale to auto manufacturers, but also to the accessory manufacturers.

Which are the accessory divisions of the General Motors Corporation to which your office sells?

A. Well, we sell Ternstedt, A. C. Spark, Delco Products; Delco-Remy, Guide Lamp, and we sell some materials to Inland Manufacturing Company.

[fol. 4223] Q. How about Harrison?

A. We have never been successful in selling them, sir.

Q. Are all of these divisions that you have mentioned users of finishing products in fairly substantial amounts?

A. Oh, yes.

Q. Which is the largest user among the divisions that you mentioned?

A. Ternstedt is appreciably the largest.

Q. Do the accessory divisions use the same type and quality of finishing products as the car units?

A. Mr. Gribbon, every unit has problems that are individual problems and you have to tailor-make the product to meet the conditions, and the things that control the conditions, and they are first, what is expected in the way of ultimate durability, and what is expected in the way of appearance, and also they have to be tailor-made to meet some peculiar conditions in the plant, as far as application is concerned.

Q. On the whole, are the performance requirements of the accessory divisions as rigorous as the car units?

A. Well, they are not subjected to the same variables that the car units are, because most of the materials are on the inside. They are under the hood or under the chassis. The interior enamels are inside the car, so consequently they don't get the same exposure, but still they have to be able to stand up under some pretty adverse conditions.

Q. And looking to the appearance demands of the accessory divisions, are they as rigorous as those of the car divisions?

A. I don't think they are quite as rigorous but still they insist on a good looking job. A man doesn't want a shabby looking steering wheel and a man doesn't want to lift up his hood and find a shabby looking oil filter or horn or horn button, or whatever the accessory happens to be.

[fol. 4224] Q. Are the problems of the application of the finish in production as difficult in the accessories divisions as they are in the car units?

A. Yes, sir, they are.

Q. Are they all of the same character?

A. Not by any means; some are spray, some dip, some automatic spray, and some hand spray. They vary appreciably in every plant.

Q. Let's look at some of these divisions.

Where is the A C Spark Plug located?

A. In Flint, Michigan, sir.

Q. What principal products does it make?

A. Primarily spark plugs. That is where they got the name A C Spark Plug, but I believe they are the largest producers of fuel pumps, and they make oil filters, air filters, and make dials for speedometers.

Q. What is the nature of the finishing products they use?

A. They use principally black.

Q. That is a black lacquer?

A. Some lacquer; some enamel; some designed to be sprayed on automatically, some dip. They also make diaphragms which require some finishing.

Q. Has du Pont been successful in the sale of its finishing products to the A C Spark Plug Division?

A. Yes, sir, we sell in substantial quantities.

Q. Where is your Flint plant located in relation to the A C Spark Plug plant?

A. Very close. It is within a mile.

Q. They are both in Flint, Michigan?

A. Yes, sir.

Q. How about the Delco-Remy Division?

Where is it located?

A. Delco-Remy has two plants: One in Anderson, Indiana, and one in Muncie, Indiana.

[fol. 4225] Q. What products do they manufacture that require finishing?

A. In the Muncie plant they build batteries in very large quantities. They use a battery paint that runs into considerable volume.

At Anderson they make, oh, different types of materials that go underneath the hood, like switches, horn buttons, and horns—just a variety of materials that go to make up a component car.

Q. What are the principal finishing products that they use?

A. Pardon me, Mr. Gribbon, they also use appreciable insulating varnish in connection with their motors that they make for General Motors Corporation.

Q. Is insulating varnish one of the products that you have attempted to sell the Delco-Remy Division?

A. Yes, sir, we have tried.

Q. What has been the extent of your success?

A. We haven't been very successful. Insulating varnish is a specialty item, and there are two concerns that have just about cornered the market on insulating varnish—Schenectady Varnish and Sterling Varnish.

Q. You still offer insulating varnish?

A. Oh, yes.

Q. Did you at one time sell Delco-Remy substantial quantities of the insulating varnish?

A. We sold them some, sir.

Q. What other finishing products does Delco-Remy use in quantity?

A. Black enamels and black lacquers.

Q. What has been your experience with respect to those products?

A. We have some sales, but we haven't been as successful as we would like to have been.

Q. Do you know whether that division buys in quantity from other suppliers?

A. Yes, I do, sir.

Q. What suppliers?

A. Well, there are a number of paint concerns in the [fol. 4226] vicinity of Dayton and Anderson and Muncie. I think Kay & Ess is the principal one. Lowe Brothers is there, Ault & Wiborg, Becker, and Thresher is located in that vicinity.

Q. Turning to Delco products, is that division located in Dayton?

A. Yes, sir.

Q. What are the products that it manufactures?

A. They make fractional horsepower motors, and they make shock absorbers. They use insulating varnishes and they use black enamel and lacquer type, both, on the shock absorbers.

Q. What has been the extent of your success with Delco Products?

A. At one time we had a substantial amount of Delco Products business, but at the present time we don't. We attribute that to the better service that they obtain from the other suppliers located there. Proximity means a great deal.

Q. Do you still attempt to sell Delco Products?

A. Yes, sir, we do.

Q. Do your salesmen call on them?

A. Yes, sir, regularly.

Q. What is the basis of your statements, Mr. Williams, with respect to the other suppliers that are selling quantities of finishing materials to these divisions? How do you know that?

A. Well, our men get in the plants and they see the materials on the line.

Q. The Inland Manufacturing Division, where is that located?

A. It is located in Dayton, sir.

Q. What are its principal products?

A. Steering wheels, and at one time they produced a tremendous volume of running boards. Now the cars don't [fol. 4227] have a running board. They have what you call a rocker panel, which has taken the place of the running board.

Q. What finishing products does Inland use?

A. Well, at one time they used large quantities of a black asphalt type of protective coating for running boards, and then when they made wood steering wheels they used lacquer types of the steering wheels.

Following the introduction of hard rubber wheels and the discontinuance of wood wheels, they used finishes over the black rubber wheels.

Now, plastic wheels have come into the picture, and after the hard rubber wheels were introduced and they started to use black over them in appreciable quantities, we got into an era of color, which we are still in, and a great many people demanded colored wheels so they would have some symmetry. So Inland got into the manufacture of colored wheels and almost discontinued manufacturing black wheels.

Q. Have you sold them the color to go on the steering wheels?

A. Not successfully, sir.

Q. How do you account for that?

A. The service problem is too great. As we understand from Inland, the color is about the last thing selected when a man is going to buy his car, so their time factor is very short from actually getting the orders from the car units for specific colors, and then getting the wheels made up and shipped to them in order to have the car delivered to the customer on time.

Before we could get samples of the colors desired and get them to our laboratories and get them matched and back to them, why, the horse is out of the barn. So they selected Thresher Varnish, who is located in Dayton, and

[fol. 4228] they have done a very excellent job and have the business.

Q. What product does the Guide Lamp make that requires finishing materials?

A. Guide produces a very large volume of lamps for the automotive industry. At one time all lamps were in black enamel, high baked enamel.

Again with the advent of color we have had to find something that we could get on those lamps to be compatible with the color coat that was going to be sprayed on when the lamps were delivered to the car divisions; so Becker Varnish perfected a primer that was very satisfactory and they got the business and they have had it ever since.

Q. That is the R. A. Becker Company you are speaking of?

A. Yes, sir.

Q. Where is that company located?

A. In Cincinnati, I think.

Now, Guide Lamp makes directional signals, too, that require no finishes. Most of them are chrome. But there is another use for paint at Guide that is very important, and tends to point out a very specific accomplishment as far as research is concerned.

The present lamp no longer sits on the fender so you can see it. They are sunken in the fender, and of course, you have to get your reflection from that lamp so as to get the light on the street.

Guide was looking for a product that would permit them to put a surface over that lamp so they could get this reflection. We worked on it for a long time, and I assume others did, too, and we came up with a product that was very carefully formulated.

It is a high baked black enamel. It has a brilliant lustre, and it is intensely smooth. The surface is almost like glass. [fol. 4229] That is sprayed on there and flowed out in the cone, and then after that is done, they take two little wires, and at the top of the wires they will put a nugget of aluminum. Then they put it in a vacuum and they explode that nugget and it disassociates and covers the entire surface of the black enamel uniformly, and you get a perfect mirror from your lamp.

That has been a real contribution, and I am sure that

the Guide Lamp are very thankful for the fact that we were able to produce something like that.

Q. Have you been successful in selling that enamel to the Guide Lamp?

A. Yes, sir, we have.

Q. Turning to the Ternstedt division, which I believe you testified is the largest user of finishing products of these accessory divisions, do you recall that you demonstrated "Duco" at the Ternstedt division back in 1923 or 1924?

A. Yes, sir, I do.

Q. I refer to Defendants' Exhibit DP 185, which has been already received in evidence.

Will you look at that, Mr. Williams? Does this report a visit that you made demonstrating "Duco" at the Ternstedt division?

A. You are directing me to the last paragraph?

Q. On the first page, yes.

Did this constitute an effort on your part to interest the Ternstedt division to use "Duco" on interior moldings?

A. Yes, sir, it does.

Q. This is dated December 3, 1923. Did you thereafter make further demonstrations at Ternstedt?

A. We did.

Q. Were you successful in persuading Ternstedt to adopt "Duco" for use on its interior moldings?

[fol. 4230] A. Not at that time, sir. They remained with the black baking enamel, japan, as we refer to it.

Q. They continued to finish the moldings with baking japan?

A. Yes, sir.

Q. Did you sell them the baking japan for that purpose.

A. No, sir, we did not.

Q. Did there come a time when Ternstedt did decide to finish their moldings with a pyroxylin product in lieu of the japan?

A. Yes, sir. In the thirties when they discontinued the japan and went to a graining process.

Q. Did you succeed in selling Ternstedt at that time?

A. Yes, sir.

Q. Were you, to your knowledge Ternstedt's only supplier of "Duco" materials?

A. I don't think we were, sir.

Q. Do you know of any other companies that were supplying them?

A. I think Arco of Cleveland was enjoying a portion of the business at that time.

Q. And since that time have you continued to supply Ternstedt?

A. We supply them some of their requirements.

Q. Are there other suppliers who also supply them with interior enamels?

A. Yes, sir.

Q. At that time, Ternstedt was located in Detroit, was it not?

A. Yes, sir.

Q. Has it since located its plant in Columbus?

A. Yes, sir, they have two plants, one at Columbus, and one at Trenton, New Jersey.

Q. In the Columbus plant, will you tell us when that was constructed.

A. Well, following the war; I don't know the exact date.

Q. Have you been successful in obtaining the interior [fol. 4231] enamel business at that plant?

A. No, sir, we have not.

Q. Will you tell us the circumstances of your bidding for that business at the Columbus plant?

A. Well, General Motors research laboratories and some of their car units were working on the new process of applying paint films known as the electrostatic spraying.

Columbus thought sufficiently well of it that they introduced this process in that plant. What it amounts to is simply spraying the materials right in a charged field, and it attracts the finish to the material.

We have been competing for that business, and we are still trying to get it. Ferbert-Schorndorfer succeeded in producing a very satisfactory finish by that process, and they have been fortunate in holding most of the business.

Q. Are you continuing your work to develop your methods of painting with the electrostatic process?

A. We certainly are.

Q. Now, you have mentioned the Harrison Radiator. Tell us, where are those plants located?

A. They only have one plant in New York.

Q. For what purpose do they use finishing products?

A. Well, they make all radiator cores, and a radiator core represents the cooling system of your car, or a substantial portion of the cooling system of the car, and they make radiators for the automotive industry. It runs into a tremendous volume of radiators.

Q. Are they a substantial user of paint to finish those radiators?

A. Yes, sir, they are. It takes a large volume of paint to finish these radiators, and they also make heaters on which they use substantial quantities of paint for protective coatings.

[fol. 4232] Q. To what extent has du Pont been successful in selling Harrison its requirements?

A. We have never been successful in selling them. They have purchased their entire requirements from two sources, as I recall, Jamestown Paint, which is located near the plant, and the Pontiac Varnish at Pontiac shares the business with them, according to our information.

Q. Have you continued to make efforts to get that business?

A. Yes, sir, we have.

Mr. Gribbon: I believe that completes the direct examination, your Honor. You may take the witness.

Cross examination

By Mr. Harris:

Q. Would it be a correct impression to obtain from your latest testimony that General Motors and its accessory divisions would buy from du Pont, as a general rule, unless there was some very special reason why they should not?

The Witness: I did not get your question, sir.

Mr. Harris: Will you read the question?

(Question read.)

By the Witness:

A. Not necessarily, sir.

By Mr. Harris:

Q. A long list of reasons for not buying from du Pont gives us close proximity to the plant, a very special product that du Pont either has not bothered to make or is still trying to make; I don't see price at the moment, but is there any other reason than those you have given of these various accessories and General Motors divisions not buying from du Pont? Is there any other reason that you can give us? [fol. 4233]. A. I know of no reason except quality, price and service.

Q. Do you mean to say by that that the quality, price and service is better than du Pont?

A. In some cases, the quality is better.

Q. The service you refer to is mostly, isn't it, proximity to their plant?

A. That is a big factor, Mr. Harris.

Q. Yes, and the quality you refer to is usually, isn't it, some special product that you do not care to meet?

A. We make the effort to meet it.

Q. Yes, but you have not been successful, have you?

A. In some cases we have not, sir.

Q. Now, who is your largest customer for paints and varnishes?

A. General Motors.

Q. Do you know with reference to these other automobile companies what percentage General Motors takes of your annual production of paints and varnishes?

A. No, sir, I do not.

Q. Have you any idea?

A. No, sir, I have not.

Q. I show you Government's Exhibit No. 490 and call your attention to page 2. It is the report of the Paint, Lacquer and Chemicals Department to the Executive Committee of April 17th, 1928, and I show you the sales of colored "Duco".

Now, you will see that the General Motors units up to date, which was March, 1928, had taken 45 per cent of your colored "Duco" that year.

Would that give you an idea of about what percentage General Motors has been taking of your colored "Duco"?

A. Well, according to these figures, they took 45 per cent.

[fols. 4234-4235] Q. I am only trying to get your recollection, Mr. Williams. That is only three months, three or four months.

Now, does that give you an idea, from your knowledge of the purchases of General Motors over the years that you have been in this department, as to whether or not that is about the figure more or less?

A. Well, it is hard to tell, Mr. Harris, what General Motors' total requirements are. We do not sell all of their requirements, consequently we do not know what their total requirements are.

Q. I think the figure refers to your production, 45 per cent of your production. I am only talking about du Pont's production.

Could you tell us whether around 45 or 50 per cent of your production of paints and varnishes and finishes has gone through the years to General Motors?

A. I think that is about right.

[fol. 4236] Q. In May, 1922, there was some considerable question, wasn't there, in the mind of the car division purchasers, and their paint engineers and other engineers as to just this very thing, the question of high lustre and the question of durability and also of adhesion, is that right?

A. Yes, sir.

Q. So that you met, when you went out to these people, a considerable amount of—well, you might call it doubt as to your ability to sell a good finish which would meet these objections, did you?

A. Well, Mr. Harris, as I testified yesterday, there was never any question about the film forming materials being, in our opinion, durable, but as I pointed out, when we went into the plant we knew we would have some growing pains, and as each of these things came up we took whatever steps that were necessary to try to correct them.

Q. The fact that you had growing pains would, would it not, add to your difficulty in selling this product at that [fol. 4237] time?

A. That is what would hold it back until we would overcome those difficulties, yes, sir.

Q. Now, I call your attention to the document which has been marked DP-210 for identification. This is an excerpt from the monthly report of the Cellulose Products Depart-

ment, which would be du Pont, to the Executive Committee, for April, 1922.

"The most important promotion work was the further development of pyroxylin enamels for new automobiles. The General Motors Research men with whom we are working had asked us to concentrate first on the problem of adhesion."

Now, what was the extent of your cooperation with General Motors in the development of "Duco" and getting these bugs—if you might call it that—out of it? How many of you were working with General Motors at that time in the laboratory?

A. I was the only one in the laboratory working with General Motors at that time.

Q. Now, you gave the names, I thought, of other men yesterday. Were they engaged with you in some other laboratory, or in the sales effort?

A. The names of our own men or—

Q. Your own men, yes.

A. Yes, they were connected with me in the field work.

Q. Now, you were the only chemist from du Pont that was working with General Motors' chemists, is that right?

A. In the research laboratories?

Q. Yes, at General Motors Research Laboratory?

A. That is correct.

Q. Now, were there any chemists from any other chemical company working with General Motors in their research [fols. 4238-4239] laboratory?

A. I wouldn't know that, Mr. Harris.

Q. You didn't know that?

A. No, sir.

Q. None was introduced to you as such, I take it?

A. No, sir.

[fol. 4240] Q. Now, Chevrolet; Chevrolet, you say as to them, that your "Duco" will never as seriously compete with the black baked enamel finish because that is cheapest, but you were going to start to sell Chevrolet color.

A. That is the way we started.

Q. And you became very successful from Chevrolet because 100 per cent is taken from du Pont, is it not?

A. No, sir.

Q. I thought you said Chevrolet was 100 per cent?

A. I didn't make that statement.

Q. Well, I am wrong.

A. We sell Chevrolet substantial quantities, but we know they buy from other sources, but not knowing what their total requirements are, I couldn't tell you what percentage we have.

Q. Perhaps the testimony of Mr. Wirshing may have been a little different. Perhaps I was confusing your testimony with Mr. Wirshing's. We will check on that.

Do you know what percentage again of Chevrolet, "Duco" finishes or similar, are bought from other sources than du Pont?

A. No, sir, I do not.

Q. When you say "very substantial" or "substantial," could you tell us what you mean in terms of percentage of total requirements?

A. Well, it depends upon the unit.

[fol. 4241] Q. What would be the lowest percentage that you would say was substantial? Where does it begin to be substantial in terms of percentage?

A. I think you have to break it down more than that, Mr. Harris.

Q. All right, tell us how you would do that.

A. I have no way of knowing what the total requirements are of any of these divisions. Our sales are confined largely to the top coats and the undercoats. I could hazard a guess, but it would be a guess at best.

Q. I am only speaking to when you, in answer to a question say, well, it was substantial or very substantial, when we are talking about "Duco."

A. In some cases I would say 50 per cent was substantial.

Q. Were you familiar with the sales to Chevrolet, just while we are on that, in 1941?

A. I think so, sir.

Q. Do you recall a contract—I will show it to you. This is Government's Exhibit No. 503, of July 17, 1941, a request to consider contemplated sales contract.

I call your attention to the comments. The contract is for approximately 100 per cent of Chevrolet paint requirements for duration of contract.

Was that usual with Chevrolet?

A. That has been customary for Chevrolet to request a contract on that basis.

Q. That is 100 per cent?

A. But we know that they don't buy a hundred per cent of their requirements from us.

Q. And you don't know how much less than 100 per cent they don't buy from you, do you?

A. No, sir, I can't estimate that.

Mr. Harris: It is 11:30, your Honor.

The Court: The Court stands recessed for fifteen minutes.

(Recess taken.)

[fol. 4242] Mr. Harris: Just before we leave the question of Chevrolet, Mr. Williams, I want to call your attention to the testimony of Mr. Wirshing, transcript 7378.

Mr. Wirshing was asked by defense counsel the question:

"Q. What about Chevrolet? What have they used throughout the years?

"A. Chevrolet has used practically all of du Pont materials throughout the years."

By Mr. Harris:

Q. Would you agree with that?

A. Well, Chevrolet used du Pont materials in a very substantial quantity, but from my access to the Chevrolet plant, I know there are competitive materials being used by Chevrolet.

Q. Yes, that is what you said, but I am speaking now about practically all.

A. A very high percentage, yes.

Q. Would you agree with that, that they do get practically all from du Pont?

A. Well, I don't know how I could determine whether they get practically all, not knowing what their total purchases are.

Q. And not knowing what they buy from competitors?

A. That is right, sir.

Mr. Harris: That is all on that document for the moment, Mr. Williams.

By Mr. Harris:

Q. Now, at the time that you were working in the laboratory of General Motors, and were seeking to iron certain difficulties out in the composition of "Duco," do you know if other chemical companies, or paint companies were also trying to reach the same kind of varnish as you were or as du Pont was?

A. I don't know, but I assume so.

[fol. 4243] Q. Now, I am going to call your attention to four documents which are marked for identification DP 204, 205, 208 and 209.

Now, I call your attention first to DP 204, which is a letter from Pratt & Lambert to General Motors, September 27, 1922.

Who is Pratt & Lambert?

A. They are paint manufacturers.

Q. Are they paint manufacturers in a big way?

A. I have no means of stating whether they are or not.

Q. Well, do you know who your principal competitors were during the years that you have been in charge of this paint work?

A. Yes, sir, I do.

Q. Who are they?

A. Pittsburgh Plate Glass, Forbes Paint & Varnish, Rinsed-Mason; they are some of the bigger ones.

Q. Any other ones that you recall?

A. Ferbert-Schorndorfer.

Q. Was the Armitage Company?

A. I don't recall.

Q. Sir?

A. I don't recall them.

Q. Was the Tokiol Paint & Varnish Company?

A. I don't recall.

Q. You now have perhaps had a chance to look at these letters, and I won't go into them, but they indicate that Mr. Mougey was interested in the development of a similar finish to "Duco" from those companies named. Did you know anything about that?

A. No, sir, I did not.

Q. Now, after du Pont reached the place in this development of "Duco" that you were able to go out and sell it to the car divisions, was there any competing product which

was of equal, shall we say value, or equal suitability to [fol. 4244] "Duco" at that time?

A. Not at the time we started out, sir.

Q. That is right. How long after was it that there came onto the market a finish that would be a competitor on fairly equal terms with "Duco"?

A. My best recollection was sometime in 1924 by the Forbes Varnish Company.

Q. Now, do you know who bought from Forbes?

A. Yes, I do.

Q. Who?

A. Fisher Body.

Q. Do you know whether the other automobile companies bought from Forbes?

A. I do not, sir.

Q. What other maker of a similar product to "Duco" was there on the market, if any, around 1924 other than Forbes and yourself, du Pont?

A. None that I recall, Mr. Harris.

Q. Has there been since then?

A. Oh, yes, sir.

Q. Can you give us the names of some of the other companies that has a product that is an equivalent to "Duco," that is competitive with "Duco"?

A. Rinshed-Mason.

Q. Who buys, if you know, from Rinshed-Mason in a big way?

A. Fisher Body.

Q. Yes.

A. Oldsmobile.

Q. Yes.

A. Cadillac, and Ford Motors.

Q. Anyone else?

A. Kaiser-Frazer.

Q. Yes.

A. That is as far as I can go now.

Q. Now, can you give us any others?

A. Mr. Harris, are you talking about topcoats or undercoats or finishing material for automobiles?

Q. Well, of course, I am not a technician. I thought I was talking about "Duco." When I am talking about [fol. 4245] "Duco," what am I talking about, can you tell me?

A. You are talking about lacquer, nitrocellulose.

Q. Thank you.

A. Then I should like to change my testimony to the extent that Kaiser-Frazer and Ford do not use nitrocellulose top finish.

Q. That is right. Now, what about Chrysler? What is the situation with Chrysler?

A. They use no nitrocellulose.

Q. No nitrocellulose, is that right?

A. That is right, sir.

Q. Now, did you by any chance sell any "Duco" to Packard?

A. Yes, sir.

Q. When did you sell to Packard?

A. I think around 1925 or 1926.

Q. Have you sold to Packard since that?

A. Some, yes, sir.

Q. Have you sold them recently?

A. Some of their needs, yes, sir.

Q. Not "Duco"?

A. Yes, sir.

Q. Do they buy "Duco," if you know?

A. They have bought it from time to time.

Q. I mean now in a big way, the same as General Motors does?

A. Oh, yes.

Q. From whom do they buy, do you know?

A. I think their principal supplier is Valentine.

Q. Valentine?

A. Yes, sir.

Q. So Valentine would be another competitor of yours, would they not?

A. That is right, sir.

Q. How long has Valentine been operating?

A. I could not tell you that.

Q. Have they been operating all the period of time you [fol. 4246] have been operating, say, from 1924?

A. I think it was after that date, sir.

Q. Do you know when they reached a product similar to "Duco"?

A. No, I do not.

Q. Now, it is a fact, is it, or I will just phrase that a

little differently—at the time that “Duco” became salable or appeared as though it was about to become salable, did you hear that General Motors wanted to take the entire supply? . . .

A. Yes, I have heard that they wanted to be the exclusive user.

Q. Yes. Now, I call your attention first to du Pont Exhibit No. 211, and I will ask you to look at page 2, the fourth sub-paragraph, which is the last paragraph. This is a report by Mr. Clements to the Paint and Enamel Committee of General Motors:

“Mr. Clements, of the Dayton Laboratory, is to see Mr. Pierre du Pont, relative to an option on material for a reasonable length of time. This was deemed desirable and, at the same time, reasonable, due to the fact that we have put a lot of time upon this finish and have helped the du Pont Company to work out methods of application. It seems to us that we should have some rights that would prevent others from capitalizing on our research and adopting the material prior to ourselves.”

Now, that didn't go through, did it, Mr. Williams?

A. No, sir.

Q. Who objected, if you know?

A. I am not in position to know. I don't know, sir.

[fol. 4247] Q: I call your attention to Government's Exhibit No. 379; the paragraph at the bottom of the page:

“There is a rather well defined feeling in the General Motors Company that they would like to have us give the General Motors Company exclusive right to the use of this new finish. This first came to our attention through Mr. Irene du Pont.”

And then the first paragraph on the next page:

“We have seriously considered”—

By the way, this is a report of October 13, 1922, from the Cellulose Department to the Executive Committee of du Pont:

“We have seriously considered this whole matter, not only from our selfish standpoint, but also from the

bigger standpoint of the ultimate best benefit to the du Pont stockholders, having in mind their very considerable stock interest in General Motors. After weighing all the factors we have come to the definite opinion that it would not be to our best interests, nor General Motors', to give them this exclusive right."

And they didn't get it, did they?

A. No, sir.

Q. Now, in view of the fact that General Motors at that time seemed so anxious to get the exclusive right to all of your product of "Duco," how do you explain the resistance that you undoubtedly received from the technicians, and from the paint technicians?

Just tell us the reason for that.

A. The paint technicians?

[fol. 4248] Q. I am talking about the men you talked about, like Mullen.

A. He is a paint superintendent.

Q. All right.

A. I cannot explain it. He just felt that he couldn't go along with that type of finish.

Q. Well, is it a fact as shown by the various reports that are in evidence here, that you encountered certain objections, one to changing their method of putting a finish on the car?

Wasn't that one of the principal objections that you ran into?

A. There are always objections from someone when you introduce a new finish.

Q. And why are there those objections?

A. It interrupts their continuity that they have been accustomed to.

Q. Yes?

A. And you have to sell them.

Q. Would that, in your opinion, be the case no matter whether it was du Pont or anybody else, Ford, or any of these people trying to sell a new product to the divisions?

A. It wouldn't have made any difference.

Q. So that the opposition you encountered, if you did, was something, was it not, to be expected?

A. Well, I had not had much experience at that time, Mr.

Harris, but if we start in with a new product now you would get opposition until you could convince the people that you had something which would be beneficial for them to use, in which case they would readily go along.

Q. Well, your statement conforms to that, which you made August 13, 1923, in the report to Mr. Moosmann, du Pont Exhibit 183 in evidence, and I call your attention to page 2. This is the second paragraph of page 2:

"I assure you that we have done everything, even vary the undercoats and believe you will agree it is [fols. 4249-4253] to our advantage as much so as to Oakland's to put out 100% jobs. The defects would not be noted by the casual observer, but every Automobile Manufacturer and paint man is out to kill or pick flaws in the usual departure."

That you found to be the case as you went through the divisions, didn't you?

A. They had to be sold, sir.

[fol. 4254] Q. Do you know, Mr. Williams, whether there was any trouble at Cadillac in getting them to take "Duco"?

A. They were conservative, and they were the last to adopt it of the General Motors units.

Q. Yes. Now, did you hear any argument concerning finishing varnish?

A. No. I did not.

Q. Was there an argument—if you did not hear it, you don't know, but was there any objection made, if you know, by Cadillac that there was not sufficient lustre after the application of "Duco"?

A. When they first started, Mr. Harris, they put out some of the jobs with "Duco," using it as a color coat, and then putting a finishing varnish over it, and they had to sell themselves that it was a better lustre than was obtainable over the processes that were available at that time, over the burnishing process I previously described.

They were conservative; they were not going to rush into anything until they knew they had sales acceptance.

Q. Yes. They thought, did they not, if you know, it was necessary to have a finishing varnish?

A. No, sir, they thought it was necessary to have a high lustre.

Q. A higher lustre than you would get from finishing varnish?

A. You cannot get any higher lustre than you get from a finishing varnish.

Q. What were they going to do about it, if you know?

A. I don't know.

Q. Did they discuss it with you?

A. No, sir.

Q. Were you able to sell Cadillac eventually?

A. Yes, sir.

[fols. 4255-4262] Q. Do you know yourself whether Mr. Sloan had interposed with the Cadillac people?

A. I don't know, no.

Q. When did you begin to sell "Duco" to Cadillac?

A. I think it was in 1924, two models, sport models.

Q. Yes. And this, I call your attention, is January 28, 1924. It was after that, wasn't it?

A. I don't know whether it was after that or before, Mr. Harris.

Q. It could not be much before that, could it, because this was January 28?

A. That is right.

[fols. 4263-4267] Q. Pyroxylin surfacer, I mean.

A. Oh, we did not get pyroxylin surfacer accepted by Fisher, but we did sell it to other concerns.

Q. Did I understand you to say that you sold it for a few years?

A. Sold it a few years?

Q. Yes.

A. Yes, sir, we did.

Q. Is it being sold now?

A. It is being sold in the refinish trade, but not to the manufacturers of new cars.

Q. What happened to the process that did away with it?

A. The introduction of oil type undercoats modified with alkyd resins speeded up the drying of the undercoat sufficiently and gave us better hold-out and were less expensive.

Q. And so that the fact that your sales of pyroxylin surfacer fell off is no reflection on du Pont, is it?

A. I don't think so.

Q. It was a new process that did away with it, is that right?

A. That's right.

Q. And that is true with a number of these things, is it, like the enamel for a chassis? Wasn't there a chassis enamel that you had where you say there weren't many sales of chassis enamel?

A. Oh, it was a different design that required a different type of material.

Q. That's right. As a matter of fact, the latest design of car doesn't take chassis enamel, doesn't require enamel, does it?

A. Oh, yes, they use a lot of it, but not the chassis.

Q. Because it doesn't show?

A. That's right.

Mr. Harris: I think that is all of this witness, your Honor.

[fol. 4208]. EDMUND M. FLAHERTY, called as a witness on behalf of the defendant E. I. du Pont de Nemours and Company, having been first duly sworn, was examined and testified as follows:

Direct examination

By Mr. Cox:

Q. You are Edmund A. Flaherty?

A. Edmund M. Flaherty.

Q. Where do you live, Mr. Flaherty?

A. I live most of the year in Milford, Connecticut. That is my legal residence.

Q. Where were you educated?

A. Pardon?

Q. Where were you educated?

A. Worcester Polytechnic Institute. I graduated in chemistry in 1911.

Q. Do you hold any other degrees or degree other than you got at that time?

A. I have an honorary degree of Doctor of Engineering from that same institution awarded in 1951.

I am a member of the American Chemical Society.

Q. Will you try to keep your voice up, Mr. Flaherty, a little?

A. Yes.

[fol. 4269] Mr. Cox: At this point I would like to offer a document marked for identification as du Pont Exhibit No. 197, which is a record of the positions held by Mr. Flaherty in the du Pont Company. It is the first document in the black notebook.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 197.)

By Mr. Cox:

Q. Mr. Flaherty, du Pont Exhibit No. 197 shows that you retired from active service with the du Pont Company on August 1, 1946, is that correct?

A. That's correct, yes.

Q. What have you done since that time?

A. For two years I did nothing other than recover my health, and during the third year after my retirement I was asked by Mr. Paul Hoffman, Director of Economic Cooperation Administration of the Marshall Plan, to go to Paris and take charge of the Chemical Branch of the Marshall Plan organization in Paris for the sixteen countries who were members of the Marshall Plan.

After two years in charge of the chemical activity I was then asked to take over all of the industry of the Marshall Plan for all of Europe—electric power, coal, petroleum, transportation, and three or four others that I forget now.

Q. How long did you continue in that work?

A. Until the end of June, 1952, which is the originally scheduled ending of the Marshall Plan. I had always planned to come back home then.

Q. What did you do then?

A. Then I became a consultant on a part time basis for [fol. 4270] three European chemical companies, one Swiss, one Italian, and one French, and a consultant to the United States Government on chemical matters in connection with European recovery.

Q. Is your work as a consultant carried on in this country or in Europe, Mr. Flaherty?

A. It is carried on mainly in this country, but it requires an occasional visit to Europe to consult with the officials of the companies with whom I work.

Q. Is the du Pont Company presently now one of your clients?

A. No, sir.

Q. Now, du Pont Exhibit No. 197, Mr. Flaherty, shows that you went to work at the Parlin plant of the du Pont Company in 1913. Do you recall that?

A. Yes, I was transferred from another position in 1913 to Parlin.

Q. Now, what business was carried on at the Parlin plant at that time?

A. There were two main businesses, one the manufacture of smokeless powder for the United States Navy, and the other the manufacture of what was called pyroxylin solutions, lacquers, enamels, and materials known as "dopes."

Q. What part of the business did you work in in 1913?

A. The pyroxylin branch. I was brought there to be the research chemist. They never had one before.

Q. What were these pyroxylin solutions used for in 1913?

A. They were used mainly for the finishing of patent leather, split leather, lacquers, as they were then known, which are coatings mainly for metal, metal objects, such as pin trays and various fancy hardware, all kinds of hardware, really, and then there was one small branch of the business devoted to collodion, medicinal type collodion made for pharmaceutical companies.

Q. How were these solutions applied to the articles you mentioned?

A. They were applied by dipping. In some cases by [fol. 4271] spraying with an air gun, and in some few cases by large coating machines.

Q. Did these pyroxylin solutions have any advantages over the oil base paint type finish?

A. They had several advantages. They were very rapid drying, and they were quite durable.

Q. Why did they dry more rapidly than the oil base?

A. Oil base finishes depend for their drying upon oxidation of linseed oil usually, which is a slow chemical process. These pyroxylin solutions depend for their drying upon the evaporation of the solvents, which takes place very quickly.

It is a physical rather than a chemical operation.

Q. Did the pyroxylin solutions which are in use and were in use at that time, and I mean by that from 1913 to

1920—have any disadvantages as compared with an oil base paint finish?

A. Yes, they were limited in the amount of solids that could be incorporated in these solvents, and therefore, for most uses, a number of coats were required, and that raised the cost if these were used in place of oil paint and limited the market for them.

Q. Why was it that more solids could not be added to these solutions?

A. The main solid in nitrocellulose solutions is nitrocellulose, and nitrocellulose has the property of imparting a relatively high viscosity to the solution in which it is dissolved, and that viscosity soon becomes unworkable if you try to put much nitrocellulose in.

The solution is too heavy to brush or spray or dip.

Q. Now, when you first went to Parlin, was any other division or plant of the du Pont Company making pyroxylin solutions?

A. None other than our Newburgh plant which was [fol. #272] manufacturing artificial leather and was making the jelly used to coat cloth which is the basis of artificial leather itself.

It received its nitrocellulose, however, from Parlin, and it consumed within the Newburgh plant all that it made. None was offered for sale.

Q. Did the Newburgh plant make anything that could be called a lacquer or enamel at that time, with a nitrocellulose base?

A. No, sir.

Q. Do you recall a company called the Arlington Company?

A. Yes.

Q. Do you recall the time came when it was acquired by the du Pont Company?

A. Yes.

Q. Do you know at that time whether the Arlington Company made any pyroxylin solution?

A. Yes. The main business at Arlington was celluloid, but they had a line of pyroxylin enamels, and at least one very popular clear lacquer which they made and sold in competition with us and the other lacquer manufacturers.

Q. After the acquisition of Arlington by the du Pont

Company, did Arlington continue to make these pyroxylin enamels?

A. Only for a rather short time. Within six months or so we took over that business at Parlin and carried it on completely. Arlington gave up that manufacture.

Q. From that time on, then, Parlin at least between 1913 and the early 1920's, was the only part of du Pont Company making pyroxylin solutions?

A. Yes, sir.

Q. You continued, Exhibit 197 shows, to be at Parlin through the First World War, Mr. Flaherty, is that right?

A. Yes, I was.

[fol. 4273] Q. Do you recall whether these pyroxylin solutions that you have described were used for any military purposes in the First World War.

A. They were used to coat the noses of shells in various colors to indicate the type shell, whether it was explosive or poison gas, or whatnot.

Then a great amount of solution was made at Parlin for the airplane industry, where it was used as a coating on the cloth wings which were used in airplanes of those days. Its function was to shrink, thereby tauten the cloth, and also give it some additional weather resistance.

Q. Was this pyroxylin solution or finish that was used to coat airplane wings the same kind of lacquer or finish that was subsequently known as "Duco"?

A. No, not at all.

Q. What would you say, briefly, was the difference between that solution and the lacquer that was subsequently known as "Duco"?

A. The main characteristic of the lacquer known as "Duco" was that in it was a nitrocellulose of a reduced viscosity made by a process we had developed and patented; whereas in the airplane dopes, nitrocellulose was used for exactly the opposite purpose. Its function was to shrink the cloth, and the heavier viscosity nitrocellulose, the only type available at that time, has that characteristic.

Q. You say at that time, you mean during the First World War?

A. Yes, sir.

Q. Now, what was your first job when you went to Parlin in 1913?

A. I was sent there to be the research chemist for this lacquer pyroxylin business.

Q. What was the first job you did as a research chemist?

A. I was given two problems to work on: one, the improvement in color of the nitrocellulose; and the other, a reduction in the viscosity of the nitrocellulose because it was known that if we could get a nitrocellulose of lower viscosity characteristics and still have the other desirable qualities, strength, resistance to weather, and so forth, the market for our products would be greatly broadened.

Q. Directing your attention to this second project, that is, the one for lowering the viscosity of nitrocellulose solution, did you have any success in 1913 in that project?

A. No, sir. I was able to reduce the viscosity, but never to get a durable film.

Q. Do you know whether anyone else in the period between 1913 and 1920, to your knowledge, had devised any way or method of decreasing the viscosity of the nitrocellulose lacquer?

A. I know of no one who had done that and retained the film strength.

Q. In this period that I have been questioning you about, which is roughly the period from 1913 to 1920, had any of these pyroxylin solutions that you have mentioned been used in the original finishing of automobiles in factories?

A. So far as I know, no.

Q. Had any of these pyroxylin solutions been used in any way to finish automobiles, if you know?

A. I spoke earlier of Pyralin taking over the lacquer business from Arlington. The enamels that we made by the Arlington process were used on the West Coast in a limited way in refinishing automobiles, the original finish of which had failed.

We also, some of our employees at Parlin, finished their own cars with these Pyralin enamels.

[fol. 4275] Q. Mr. Flaherty, you are now going to be handed a document which has been marked for identification du Pont Exhibit No. 198, and I ask you to look at it.

The Court: I neglected to advise counsel that it will be necessary for the Court to recess at 12:00 o'clock. Unless requested, there will be no recess this morning.

By Mr. Cox:

Q. Have you looked at Exhibit No. 198 for identification, Mr. Flaherty?

A. Yes, sir.

Q. Will you tell us what this document is?

A. This is a reprint of a paper I read before the Society of Automotive Engineers in Detroit.

Q. Did you write that paper yourself?

A. Yes, sir.

Q. Where did you get the information that you used in writing that paper, Mr. Flaherty?

A. The experience I had personally acquired during the years I had been working on this problem, with the exception of some information in one part of it which we got from the Oakland Motor Company.

Q. Did you personally get that information from the Oakland Motor Company?

A. I got permission to use it from them, yes, sir, personally.

Mr. Cox: At this time I should like to offer the document which has been marked du Pont Exhibit No. 198 for identification, and read a passage which occurs on the second page of the document.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 198.)

[fol. 4276] Mr. Cox: In the first column on the second page, the page being divided into three columns, the passage begins under the heading "Enamels for Car Finishing," and reads:

"A number of years ago various investigators in the pyroxylin industry had the thought that the pyroxylin enamels, because of certain desirable properties they possessed in addition to the ease and speed of application, could be employed to advantage in finishing automobiles. A very high grade, expensive type of pyroxylin enamel, known as 'Pyralin' has been manufactured by the du Pont Company for many years, and the first commercial use in the automobile refinishing industry of pyroxylin products was the employment of these 'Pyralin' enamels in certain refinishing shops in California. It was found that these enamels, while not pos-

sessing much body themselves, could be used over a certain type of priming coat which was worked out especially for them, and by applying a sufficient number of coats a very satisfactory automobile finish was the result. This finish had the advantage of being easily cared for and would stand several years' hard service in the hot sun and alkali dust of the desert without appreciable deterioration, although other finishing materials would break down in a month or two under similar conditions. In addition, the finish could be cleaned with remarkable ease, since it was so hard it did not readily scratch, and dust, or even caked mud, could be wiped off with a dry cloth without injury. The finish did not have the high gloss of finishing varnish, but had a characteristic satin luster, which to many was even more attractive, especially as it was permanent."

[fol. 4277]. By Mr. Cox:

Q. Mr. Flaherty, will you tell us, if you know, why it was that these pyroxylin enamels could be used to refinish automobiles, and they were not used in the manufacture of automobiles as an original finish?

A. They required too many coats. They had a very limited solid content because of the difficulty about viscosity to which I referred a short time ago, and therefore it would not be a practical finish in large automobile factories.

Mr. Cox: At this point, if your Honor please, I think I should also like to read another passage which follows closely after the one I have just read. In the second column on page 2, under the heading "Development of Covering Power."

It reads:

"This successful use of a pyroxylin enamel in the refinishing trade naturally focused attention on the possibility of adapting it to the original finishing of new automobiles in the factories, but the process had one serious drawback, which for a long time seemed insurmountable. Pyroxylin solutions at that time were mainly volatile solvents, the actual amount of pyroxylin or other solid materials in them being relatively small. This meant that to deposit from such a solution a film

of sufficient hiding power to produce the solid built-up color desired, such a great number of coats was necessary that the process was not a practical one. The obvious answer seemed to be to put more solid matter into the solution. Now pyroxylin has the property of imparting a relatively high viscosity to solutions containing only a small amount of it. When an attempt was made to increase the amount of pyroxylin in the solution, in order to give it more covering power, the viscosity increased to such a degree that the solution was too stiff to work."

Q. Now, Mr. Flaherty, I want to direct your attention to the year 1920, and to certain events that happened in that year that had a relation to this problem of viscosity of lacquer. You were still at Parlin in 1920?

A. Yes, sir.

Q. Do you recall what kind of experimental work you were carrying on at that time?

A. The du Pont Company decided to investigate the possibility of manufacturing motion picture film base as an outlet for nitrocellulose. We were charged with the responsibility of developing a process for making motion picture positive films, and after some laboratory work, we built a fairly good sized experimental plant.

We then proceeded to make films, the first operation being making the base which is celluloid, in large rolls, and then coating it in the dark with silver emulsion which had photographic properties.

After a great many failures we finally arrived at a fairly good positive film, and sent it out to the laboratories that process the films for the Hollywood producers for tests.

They printed pictures on it, and it worked quite well, the photographic qualities, but it had one failure, which in dry weather there would be a fogging of the photographic emulsion, and after some investigation we determined that was due to a building up in the film as it unrolled either in the camera or the printing machine, charges of static electricity. Therefore we turned our attention to the possible means of eliminating or minimizing this tendency.

One of our chemists thought perhaps we should incorporate something in the film base that would keep it

slightly moist, keeping a moist atmosphere around the film that we felt would give the static electricity a chance constantly to float off into the air before it became strong enough to affect the emulsion.

One of the chemicals we thought of trying was known as sodium acetate. It was selected because it crystallized at ten molecules of water. Therefore we felt that we would put in a bit of moisture producing material into the film base, and we put in one or two percent of the sodium acetate. We tried that and it was successful so we decided to make a large factory scale run to make enough to send back to some of the laboratories who had reported on the difficulty of our films, and I instructed the supervisor in charge of the plant to get fifty gallons of the base made, and cast it on the film on which the finishing base is produced as soon as he could.

He started on this program, but called me up the day that he made the run, after he had the material made, to tell me that he was having trouble with the power in the film plant. He could not operate the wheel that day. I think that was on Friday, and I told him to wait and do it on Monday.

So Monday he telephoned me that he could not use this material, that it dropped off in viscosity, and it was too thin to be used on the casting wheel, and I concluded that the sodium acetate idea was not going to be a good one because the film base from the very nature of it, had to be very carefully regulated. The viscosity of the solution [fol. 4280] is one of the most important factors because a slight variation in thickness of the film base, it does not run smoothly through the processing machine or the camera which is later used, but after giving further thought to that, it had occurred to me that perhaps this was a method of producing viscosity which might solve the unrelated problem in the lacquer field.

Q. Mr. Flaherty, so far as you know, who first had the idea that this event might have some bearing on the viscosity of lacquer?

A. As far as I know, I did.

Q. Was this material that was found in the drum on Monday a material that was "Duco"?

A. Oh, no, sir, it was a nitrocellulose base, and it con-

tained some solvents of nitrocellulose and some camphor, not at all "Duco."

Q. What did you do after that in relation to pursuing the idea of lacquer?

A. Well, first we determined the concentration, and so forth, to reduce the viscosity sufficiently, and then made some film tests to see if we were retaining the strength in the film resulting from this viscosity reduction process. We had to get a film strength, and we used roughly three times as much nitrocellulose in the solution without raising the viscosity to the degree that made the product unusable.

We then again incorporated gum, resin and pigment into it and tried to make a kind of lacquer suitable for automobiles or other uses that we had always dreamed of but never could produce.

Q. Can you indicate in a general way what period in 1920 that this idea first came to you about the use of sodium [fol. 4281] acetate to reduce viscosity of lacquer?

A. Only to say that was in the summer.

Q. How long did you work after that before you developed a product that you regarded as showing possibilities of a lacquer?

A. Why, I do not think we had a product that we were willing to offer even for test purposes outside of our own laboratories for another six months.

Q. Now, when you got to that point, that is to say when you had everything you were willing to offer for test purposes, what were the basic ingredients of the product, if you can tell us?

A. Nitrocellulose, solvent, a softener, usually castor oil or a similar oil, resins, gums and pigments.

And in some of our early offerings, we did not put in pigments because we knew there was a probable market for what was called a clear lacquer.

Q. Was this six month period you have spoken of devoted to determining how properly to combine these ingredients in the mixture?

A. Yes, sir.

Q. Mr. Flaherty, did you file an application for a patent of this product?

A. Yes, sir.

Q. Did a patent issue, do you know?

A. Yes, sir.

Mr. Cox: At this point, I should like to offer a document which has been marked for identification du Pont Exhibit No. 199, which is a reissue patent No. 16,803.

(Said document so offered and received in evidence was marked du Pont Exhibit No. 199.)

By Mr. Cox:

Q. After the patent first issued, did you apply for a reissue patent?

A. Yes, sir.

[fol. 4282] Q. Why did you do that?

A. It was found on rechecking some of the calculations in the subject matter of the patent, there had been some errors in translating one method of viscosity into another, and we asked for a reissue to correct those errors, which reissue incidentally limited us, or limited some of the claims we had made in the earlier patent.

Q. Do you remember when the original patent was issued, roughly?

A. About 1927, I believe.

Q. I think that is right. I point out, if it please the Court, that the patent, Exhibit 199 which I now offer, shows on its face that the application for the issue was filed September 19, 1927, and that the re-issue patent was re-issued on November 29, 1927.

Mr. Flaherty, as a matter of law, of course, the patent will speak for itself, but for the information of the Court and counsel, can you tell us in a layman's language as the inventor, what, in general, was the invention you claimed?

A. The patent claims an invention of lacquer containing nitrocellulose with a reduced viscosity, according to the teachings of the patent and other necessary materials, gums, resins, and softeners, and of course, solvents to make it workable in many different branches of industry.

Q. Mr. Flaherty, was there any litigation involving the validity of this patent?

A. Yes. After the product made possible under this patent began to come to the market, it was received with considerable success, and a number of competitors began to infringe the patent, and the du Pont Company decided

to test the validity of the patent, and bring a suit for infringement against two of these infringers to test it.

[fol. 4283] Can you tell us what happened in those suits?

A. The first suit was brought in Brooklyn, I think.

Q. That was the United States District Court for the Eastern District of New York?

A. Yes, and Judge Campbell held the patent invalid. An appeal was made to the Circuit Court in New York, and Judge Learned Hand wrote the opinion holding it valid and infringed. He repeated that opinion. Our opponents asked for a rehearing in the Circuit Court which was granted, and the patent was upheld.

Meanwhile, the second suit filed in Wilmington had come to trial, but before the verdict was rendered, the Circuit Court of New York had twice upheld the patent, therefore, our opponent gave up and asked for a settlement, and asked for licenses.

Mr. Cox: For the information of the Court, and the record, I may state that Judge Campbell's opinion holding the patent invalid was reported in 1 Fed. Sup. page 1007 under the name E. I. du Pont de Nemours vs. Glidden Company, and the opinion by Judge Learned Hand, both the first opinion and the opinion on rehearing, was reported in 84 Fed. 2d. 392, under the same name.

By Mr. Cox:

Q. Mr. Flaherty, thereafter did the du Pont Company grant licenses under the patent?

A. Yes, the du Pont Company granted licenses, as far as I know, to everyone who applied, and the number was between 250 and 300.

Q. Do you know whether anyone who applied was ever denied a license? Do you recall?

Do you recall any denial?

A. I recall that no one was ever denied a license.

[fol. 4284] Q. Now, I want to direct your attention to the beginning of the year 1921.

Was there any change in your duties at that time?

A. I was transferred to the Wilmington Office of the du Pont Company, first for a few months as assistant on operational matters, involving pyroxylin business of the com-

pany, and later in that same year there was a reorganization of the company, and I was made assistant director of sales for that branch of the business, and the sales department which included me then, was transferred back to Parlin, and its headquarters were from then on at Parlin for a number of years.

Q. Well, beginning in January, 1921, did you have any duties with respect to the commercial exploitation of "Duco"?

A. I was responsible for that, yes, sir.

Q. By the way, was this lacquer that was covered by the patent first sold under the name "Duco" or some other name?

A. It was first sold under the name "Viscolac," and the name "Duco" was adopted some two years later, I think, on the need for a shorter name.

Q. What did you do in 1921 to exploit this lacquer, commercially?

A. Well, first I attempted to take samples, personally to take samples to possible interested users, and get them to test it, specializing in the very beginning in the furniture field, in the manufacturers of such wooden objects as brush handles and pencils and things of that nature, and then as we began to find we could make products with color, and too, increase that to cover color finishes—particularly for the furniture industry in the beginning—and in the course of that work we, of course, ran into difficulties and would make a trip to Parlin to talk to the laboratory chem- [fol. 4285] ists on the difficulties we were encountering on field testing, and get them working on these matters or difficulties and improving our product; that went on in the entire year.

Q. You began by selling clear lacquers, is that right?

A. Yes, sir.

Q. And then developed the colored lacquers later?

A. That was a later development, yes.

Q. In 1921 had you engaged in this commercial exploitation work throughout the year?

A. Yes, sir.

Q. At any time during that year did you approach General Motors with a view to persuading them to use this lacquer?

A. In the year 1921, no, sir.

Q. Did you do anything with this lacquer in relation to its use as an automobile finish during that time?

A. We had some work going on in our Parlin plant mainly on employees' cars.

Q. That was a refinishing operation?

A. That was a refinishing operation.

Q. Now, Mr. Flaherty, do you remember meeting a man by the name of Mougey at one time?

A. Yes, sir.

Q. Do you remember when you first met him?

A. I met him early in the year 1922 when I had been transferred back to Parlin. We received a telephone call from Wilmington one day saying he was in Wilmington and was trying to interest the du Pont Company in the development of a more quickly drying finish for automobiles, and they told him to come to Parlin and talk with me, which he did the next day. That was my first meeting with Mr. Mougey.

Q. What did he say to you in this meeting?

A. He told me that General Motors was seriously concerned about the production problem they were facing in [fol. 4286] their expansion program for increasing automobile production because of the slowness of the drying of the finishes they were using on their cars, and were seeking some method of improving that rate of drying.

Q. Did he say anything to you about lacquer as an automobile finish?

A. No, all he did was explain the problem to me and ask me if we had any suggestions.

Q. Did he say anything to you that indicated that General Motors had considered the use of lacquer at that time?

A. No, sir.

Q. What did you say to him, if you remember?

A. I told him it happened that we had a product part way developed that I thought might be successfully applied to automobile manufacture; and I showed him some of my tests on small panels that we had been making in the laboratories and also showed him some of the cars, employees' cars which we had refinished with lacquer as we were then making it.

He was interested and asked if I could send samples of

the products I had shown him on the tests and information regarding them to him at the Dayton Laboratories where he was employed, which I did.

Q. In this conversation with Mr. Mougey, was anything said by anyone about du Pont's ownership of stock in General Motors?

A. No, sir.

Q. In this conversation with Mr. Mougey was there any reference by anyone to any agreement or understanding whereby General Motors was to buy some or all or any part of its automobile finishes from du Pont?

A. No, sir.

Mr. Cox: At this point, may it please the Court, I think I shall offer a document which has been marked as du Pont Exhibit No. 200.

[fol. 4287] (Said document so offered and received in evidence was marked du Pont Exhibit No. 200.)

Mr. Cox: Without reading the document I call the Court's attention to the fact that it is a letter from Mr. Mougey to Mr. Downs of the du Pont Company dated February 24, 1922, and in the second sentence refers to the recent—to Mr. Mougey's recent visit at your plant which would corroborate Mr. Flaherty's recollection of the date.

By Mr. Cox:

Q. What did you do to follow up your interview with Mr. Mougey, if anything?

A. After sending the samples to him I arranged for a visit to the Dayton Laboratories and asked permission to have Mr. Williams, who was a chemist beginning to specialize in this particular branch of our business—asked to have Mr. Williams come with me to Dayton.

Q. That is Mr. R. C. Williams who testified in this case last week?

A. Mr. R. C. Williams, yes, sir.

Mr. Cox: At this time I would like to offer a document marked du Pont Exhibit No. 201 for identification, a letter from Mr. Moosmann, and bears Mr. Moosmann's name in typewriting.

(Said document so offered and received in evidence was marked du Pont Exhibit No. 201.)

By Mr. Cox:

Q. Mr. Flaherty, will you look at this document. Did you write this letter?

A. Yes.

Q. It is addressed to General Motors Research Corporation [fol. 4288] ration attention of Mr. Mougey, and the first sentence states it is being arranged to have Mr. Williams and Mr. Flaherty call on Mr. Mougey at Dayton.

Did you, in fact, call on Mr. Mougey in Mr. Williams' company at Dayton?

A. Yes, sir.

Q. Do you recall what happened on that occasion?

A. He had already put into work in his own laboratory a testing program on the samples we had sent him. He had run into some difficulties, one being the adhesion of the lacquer we had sent, to the steel plates on which he was testing it. We were able to show him, so far as that particular test was concerned, the difficulty was due to improper cleaning of the steel, and that all that was necessary, again from the viewpoint of that particular test was to do a better cleaning job, and the "Duco" would adhere.

Then he began to explain to us that it was not feasible to finish an automobile by applying this color coat directly to the steel because the material is bought and is fabricated by automobile companies, and in the manufacture the automobile body necessarily has a great number of scratches and dents and even tiny holes in it which have to be filled up and smoothed before the top coats can be applied, or the appearance will be unsatisfactory.

Q. Did you meet anyone other than Mr. Mougey on this occasion and date?

A. I remember quite well meeting Mr. Clements who was Mr. Mougey's superior, and I think it was on my first visit to Dayton that I also met Mr. Kettering.

Q. Did you talk to Mr. Kettering?

A. I talked to him the first time I met him, at some length, about the problem. I think it was on the first visit.

Q. Do you recall anything about your conversation with Mr. Kettering, the first time that you did meet him?

[fol. 4289] A. He told me of his interest in a quicker drying finish for automobiles, and gave among other reasons for his interest in it that General Motors was planning to

bring out a new Chevrolet, and they had the idea—he had already heard that we had a very durable finish in addition to a more quickly drying one, and if that were true, it could be advertised and sold as a garageless car because, since it didn't need water for a cooling system, there would be no freezing problem in the winter, and if the finish would really stand up in outdoor exposure, a man could leave his car out day and night and not worry about any troubles with it.

Q. At this first meeting in Dayton, Mr. Mougey and the other persons you saw at that time from General Motors, in your conversations was any reference made to du Pont stock ownership in General Motors?

A. No, sir.

Q. Did anyone from General Motors at that time tell you that they would adopt this new lacquer and use it in the manufacture of cars?

A. No, sir.

Q. What did they say, if anything, about the possible adoption of the new material?

A. They made it very clear that we would have to convince them by a testing program run under their own auspices that whatever we were offering would be suitable for a car finish, both from the viewpoint of manufacturing conditions in their factories, and appearance and service to the ultimate owner of the car.

Q. Was this the only time you visited Dayton?

A. I visited Dayton quite a number of times during the next twelve months.

Q. Did you go alone or with other persons from the du Pont Company?

A. Usually I went alone, because Mr. Williams who was devoting all his time to this work, was staying at Dayton. [fol. 4290] I would go out and meet him, go over the work that had been done since my last visit with him, and Mr. Mougey.

On some occasions I think I went with Mr. Moosmann, and I believe on one occasion with Mr. Allen, who was general manager of our department.

Q. You say Mr. Williams throughout part of this period after 1922 was stationed at Dayton?

A. Yes, sir.

Q. Who was responsible for assigning him to that as his headquarters?

A. I was responsible for assigning him to it, and it resulted from a request from General Motors that they have a qualified chemist there on call all the time to help them with their program.

Q. What instructions did you give Mr. Williams when you sent him to Dayton?

A. Mr. Williams went there as one familiar with the properties of our lacquer, and particularly skilled in the methods of applying it. So I told him to do his part to impart all his knowledge to the General Motors' chemists who were working on the program, and in addition to make very careful note of the working properties of the various samples as we submitted them, and report back to us particularly any difficulties that might result from the use of them.

Q. Mr. Flaherty, at this time in 1922, were you aware of the existence within General Motors of a committee that was studying paint and enamel problems? Did you ever hear of that committee?

A. Yes. Mr. Mougey told me there was a committee studying drying of paint and enamel products.

Q. At this time did you know or have any knowledge whether that committee was considering other finishes besides your lacquer for possible use on cars?

A. Well, only by inference. I knew that the committee was appointed to study drying paint and varnish, so I would [fol. 4291] assume that they must be testing paint and varnish which we were not offering as well as a lacquer which we were offering.

Mr. Cox: At this time, may it please the Court, I should like to offer certain documents which relate to the activity of the Paint and Varnish Committee of General Motors.

The first one is a document which has been marked du Pont Exhibit No. 202 for identification, and I should like to read a passage that begins at the foot of the first page and continues to the second.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 202.)

Mr. Cox: These are the minutes of the second meeting of the Committee appointed to study enameling and varnish drying practices, dated March 22, 1922:

"We will proceed with all expedition in exploiting the value of the two new materials that have come to our attention:

"(1) The Westinghouse japans, in which the present volatile thinners are displaced completely by similar volatile thinners of the non-inflammable type. This type of material would do away with all fire hazard and would probably save thirty to forty per cent of the heat required, due to the fact that large amounts of air now have to be heated in order to keep a mixture in the ovens sufficiently lean so as not to be explosive in nature.

"(2) Material proposed by the du Pont Company. Their chemist is now at the G.M.R.C. Laboratory, [fol. 4292] working in conjunction with our organization in determining the value of this product."

Then there is a discussion, the balance of the paragraph about the activities being carried on.

The paragraph ends:

"The outstanding difficulties of the process at the present moment are whether the material will stick to the surface and not peel off and whether sufficiently high lusters can be obtained to withstand car plant inspection. Other details seem to be capable of satisfactory solution."

Then the next sentence:

"These two methods will be pushed with all celerity; for they have great bearing upon the entire investigation."

I next would like to offer a document which has been marked du Pont Exhibit No. 203 for identification, which is a letter from Mr. Mougey to the Murphy Varnish & Co.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 203.)

Mr. Cox: I call the court's attention to the first paragraph of that letter, in which Mr. Mougey described the problem General Motors was working on; and to the last paragraph of the letter, in which Mr. Mougey said:

"Does your company make any material which will enable us to finish automobiles and obtain a very much more durable finish than is now customary practice? [fol. 4293] If so will you please send us a quart each of color varnish and rubbing varnish, which you would recommend, together with a bill for same?"

This letter is dated August 22, 1922.

I should now like to offer the document which has been marked du Pont Exhibit No. 204 for identification, which is a letter to the General Motors Corporation from Pratt & Lambert, Inc., dated September 27, 1922.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 204.)

Mr. Cox: I shall not read the letter, but I call the Court's attention to the fact that the first paragraph of the letter indicates that a Mr. Gilligan, of Pratt & Lambert, had on one occasion conferred with someone of General Motors with respect to the difficulties experienced in the finishing of automobiles.

I next offer a document which has been marked du Pont Exhibit No. 205 for identification, which is a letter from Mr. Mougey to Pratt & Lambert, dated November 7, 1922.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 205.)

Mr. Cox: This letter reads as follows:

"A short time ago you wrote to us concerning automobile finishes, and mentioned the fact that your Research Department has been doing some good work toward improving the durability of these finishes.

"You also promised to send us some panels and samples showing some of the results you had obtained, [fol. 4294] since we also are keenly interested in these results as well as the entire problem of automobile finishes, we sincerely trust that you will continue to

bear us in mind when the samples are ready to be submitted."

I next offer a document which has been marked du Pont Exhibit No. 206 for identification, which is a letter from Mr. Mougey to Mr. Pulsifer, of Valentine & Company, dated February 23, 1923.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 206.)

Mr. Cox: I call the Court's attention to the first paragraph, which reads:

"When you were here this week we discussed the matter of your preparing for us test panels showing the most durable finish which you can possibly prepare on a schedule taking the same number of coats and the same number of days as the present Cadillac schedule."

Then the last paragraph:

"On receipt of this material we will try to arrange with the Cadillac Company to get a few cars finished with your material on your schedule."

I next offer a document, which has been marked du Pont Exhibit No. 207 for identification, which is a letter from Mr. Kavanaugh, R. S. Kavanaugh, of the General Motors Corporation, to Mr. Mougey, dated October 2, 1923.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 207.)

[fol. 4295] Mr. Cox: I point out to the Court, without reading it, the first three paragraphs of the letter relate to some work that had been carried on between the Ault and Weiborg Company and Oldsmobile with respect to automobile finishes.

I shall next offer, without reading, a document which has been marked du Pont Exhibit No. 208 for identification, which is a letter from Mr. Mougey to Mr. Armitage, the J. L. Armitage Company of Newark, New Jersey.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 208.)

Mr. Cox: This is dated November 19, 1923, and in this letter Mr. Mougey inquires about more durable finishes for automobiles.

I shall next offer a document which has been marked du Pont Exhibit No. 209 for identification, in which Mr. Mougey, writing to the Tokiol Paint & Varnish Company, of Philadelphia, inquires about an advertisement published by that company for a permanent high gloss, quick-drying varnish.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 209.)

Mr. Cox: I call attention to the last sentence in the letter, in which he says:

"We are very much interested in material that will do what is claimed for your material and we would like very much to receive samples."

[fol. 4296] By Mr. Cox:

Q. How long did this work with General Motors, this testing work, continue, generally, Mr. Flaherty, if you remember?

A. I would hesitate to say that it ever ended. It continued.

Q. Was there a period between the time when you first talked to Mr. Mougey and the period of time when a division of General Motors first began to use the lacquer in a commercial way?

A. Yes.

Q. Roughly, could you tell us how long that period was?

A. Slightly over a year, from my first talk with Mr. Mougey and the time the Oakland Motor Car Company decided to adopt "Duco".

Q. During that time, what did you do personally, Mr. Flaherty, if you did anything to encourage General Motors to adopt "Duco"?

A. I visited their laboratories, observed their tests as frequently as possible, and whenever I felt I should make any suggestions to our own laboratory as to modifications in our products to make them perform better in General Motors' plants or in their testing laboratories, I did so.

I followed the work very closely all through the testing period.

Q. Did you receive reports from Mr. Williams about his activities?

A. Yes, reports, and I would ask him to come to Parlin as often as I felt a conference with him personally would be helpful to the chemists and to me.

Q. Did you ever visit any of the plants of General Motors as distinguished from a testing laboratory.

A. Yes, sir, I made a number of visits to the plants.

Q. On these visits, did you discuss "Duco" with representatives of General Motors?

A. Yes.

[fol. 4297] Q. Do you remember what you said in those conversations, in substance?

A. In general, I would simply repeat to them the properties that we had discovered in these products, the results of the tests we had made, and why we felt these products were approaching a point where they would be suitable for factory use by General Motors.

Q. In any of these conversations, did you mention du Pont's ownership in General Motors?

A. No, sir, never.

Q. In any of these conversations, did you mention any understanding or agreement whereby General Motors was to buy all or any part of its finishes from du Pont?

A. No, sir.

Q. Can you remember the names of any of the persons in the various divisions of General Motors that you talked to during this early period?

A. At Chevrolet, always with Mr. McQuaid, who was the general plant superintendent for Chevrolet.

At Buick, with Mr. Mullin, who was the paint superintendent; with Mr. Weckler, who was plant engineer; with Mr. Durham, who was, I believe, assistant general manager of Buick; and on one occasion with Mr. Bassett, who was general manager.

At Oakland, Mr. Russell Rogers and Mr. Hannum, I think his name was, who was his superior.

At Cadillac, I had one talk with Mr. Rice, and later ones with Mr. Larry Fisher, who succeeded Mr. Rice—Mr. Lawrence Fisher, pardon me.

Then I also talked with the paint superintendent in the course of their testing program.

Q. At Cadillac?

A. At Cadillac.

Q. Do you recall when you saw Mr. Bassett at Buick?

A. Sometime in the summer of 1923.

[fol. 4298] Q. Do you recall anything about that conversation?

A. I think I asked for the interview, and I think it was arranged through Mr. Weckler, whom I saw as a routine matter when I called there.

Mr. Bassett showed familiarity with the testing work that was going on, and with the success Oakland was having with the "Duco", and in general expressed himself as well satisfied with the way the program was proceeding, and that it looked as though "Duco" was going to be the finish that they wanted for their cars. They had not at that time adopted it.

Q. They had not at that time adopted it?

A. No, sir.

Q. Who was your superior at this time in the du Pont organization, your immediate superior?

A. Mr. Moosmann.

Q. Who was Mr. Moosmann's superior?

A. Mr. Richter and Mr. Allen. Those two gentlemen were in Wilmington, and respectively are assistant general manager and general manager of the department.

Q. Were you ever present when either Mr. Allen or Mr. Moosmann or Mr. Richter talked to any of the men in the different divisions of General Motors about this lacquer?

A. I made one trip with Mr. Allen during the course of which we visited most of the General Motors plants and talked with some of the top men. I made one other short visit with him to Mr. Sloan, in Mr. Sloan's New York office.

Q. Do you recall when that visit to Mr. Sloan took place?

A. Early in 1923. We were sure—we, I mean Mr. Williams and myself—were sure that General Motors was probably going to adopt "Duco" in a relatively short period, and I was concerned about our capacity to produce [fol. 4299] in volume if they suddenly adopted it for a great portion of their line of cars, and had been telling my

Wilmington superiors that it would become necessary for us to make some rather large investments in additional plant capacity.

I think Mr. Allen wanted to check my perhaps optimistic forecast by talking to someone in General Motors and trying to get some idea, at least, as to whether or not adoption was imminent, and how much the volume would likely be so we could decide how big a plant we needed to build.

Q. Were you present when Mr. Allen talked to Mr. Sloan?

A. Yes, sir.

Q. Can you recall what was said in that conversation?

A. Mr. Sloan showed familiarity with the work and the promise that "Duco" showed, but was quite clear in his statements to us that the car units were the ones who would make the final decision, and that we would see the heads of those units for the information that we wanted as to possible dates and possible amounts of "Duco" that they were going to require.

Q. In your presence did Mr. Sloan give Mr. Allen any assurance about the adoption of "Duco"?

A. No, sir.

Q. Did he make any statement to Mr. Allen about the amount of "Duco" that General Motors might require?

A. No, not at all.

Q. Mr. Flaherty, there have been introduced in evidence in this case a number of letters which were exchanged between Mr. Sloan and Mr. Allen in 1924—I believe those letters have now been handed to you. They are Government Trial Exhibits 386, Defendants' Trial Exhibit No. GM-118, Government Trial Exhibit No. 388, Defendants' Trial Exhibit No. GM-119, and Government Trial Exhibit No. 394. [fol. 4300] Will you just look at those letters, please?

A. Yes, sir.

Q. Do you now recall whether you saw those letters or copies of those letters in 1924?

A. In 1924, no, sir.

Q. Do you now recollect whether you knew at the time of Mr. Sloan's writing to Mr. Allen?

A. No, sir.

Q. Or Mr. Allen's writing to Mr. Sloan?

A. No, sir.

Q. Now, I should like to retrace our steps just a bit, and direct your attention to an incident that occurred in the autumn of 1922. This incident is reflected in certain Government trial exhibits, and has to do with requests made by General Motors for exclusive use of "Duco."

Do you remember that such a request was made?

A. I remember attending a meeting of the paint and enamel drying committee, and one of the General Motors men at that meeting said he felt that General Motors should have exclusive use of "Duco," and they would proceed to make a formal request for that.

Q. Was there any other representative of the du Pont Company present at this meeting, or were you the only representative?

A. I was the only one.

Mr. Cox: At this point, if the Court please, I should like to offer a document which has been marked du Pont Exhibit No. 211 for identification.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 211.)

Mr. Cox: This is the minutes of the meeting held of the Paint & Enamel Committee of General Motors, held on Thursday, October 5, 1922, and I call the Court's attention to a paragraph which appears on page 2, marked 4 in parentheses, which reads as follows:

[fol. 4301] "Mr. Clements, of the Dayton Laboratory, is to see Mr. Pierre du Pont, relative to an option on material for a reasonable length of time. This was deemed desirable and, at the same time, reasonable, due to the fact that we have put a lot of time upon this finish and have helped the du Pont Company to work out methods of application. It seems to us that we should have some rights that would prevent others from capitalizing on our research and adopting the material prior to ourselves."

Were you present throughout that meeting of the committee, do you recall?

A. Yes, sir, I think I was.

Q. Now, did you make this suggestion that they should ask for exclusive right to use—

A. No, sir.

Q. Did anyone from General Motors in this committee meeting tell you at this time that General Motors was going to adopt "Duco"?

A. No.

Q. Do you recall generally what they did say at that time?

A. That the tests were proceeding in such a way that they were very much pleased, and they felt that most of the remaining difficulties could probably be overcome.

Q. I direct your attention in this question to your state of mind. Did you go away from that meeting feeling that it was certain that General Motors would adopt "Duco"?

A. Well, I went away from the meeting feeling very much encouraged.

Q. This meeting, Mr. Flaherty, I call your attention, was held in October, 1922.

Do you recall, roughly, how long after that it was before a car division of General Motors decided to use "Duco" [fol. 4302] commercially?

A. The first news I had, I think, came via telephone from Mr. Williams telling me—it must have been about March, 1923, telling me that Oakland was getting ready to adopt "Duco" on its next model, which was manufactured in the summer of that year.

Q. At this meeting of the Paint, Varnish and Lacquer Committee, which was covered by du Pont Exhibit No. 211, did you hear anyone refer to du Pont stock ownership in General Motors?

A. No, sir.

Q. Was there any discussion at that meeting of any agreement or understanding under which General Motors was to buy all or any part of its finishes from du Pont?

A. Not at all, no.

Mr. Cox: At this point, may it please the Court, I should like to offer another document which will complete this evidence relating to this matter for the request for the exclusive use of "Duco."

It is a document which has been marked du Pont Exhibit No. 212 for identification, and is a letter from Mr. Clements

to Mr. P. S. du Pont dated October 16, 1922, and I should like to read the first four paragraphs.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 212.)

Mr. Cox: (Reading):

"This is to serve as a reminder of our conversation relative to the du Pont enamels, called 'Duco.'

"You were to discuss this matter with your brother, Irenee, to see whether we could not have some kind of [fol. 4303] an option on the use of the material, at least, until all methods of application were completed.

"As I told you, this material looks very promising, but we must be certain of every step. The production of the material and its utilization, go hand in hand and I am sure that the du Pont boys will admit that we have helped them very materially in getting the product ready for the market.

"It behooves both organizations to see that the material is right before the production proceeds very far. For that reason, we feel, that the du Pont Company should not negotiate with other companies relative to the use of this material, until a reasonable time has elapsed, permitting the assurance of high service which is necessary to the success of the finish."

By Mr. Cox:

Q. Now, Mr. Flaherty, the record in this case shows that this request was not agreed to by the du Pont Company. Do you recall whether your superiors in the company discussed the matter with you?

A. Yes.

Q. Did you have any views on the matter at that time?

A. I was opposed to the granting of exclusive right to General Motors or to anyone else for two reasons:

One: Naturally, I wanted to see our market as broad as possible; and the other, that realizing as I did that the finish was going to look different to the car buying public than high lustre varnishes to which they had become accustomed, therefore that might in itself create some sales resistance.

and I honestly felt it was better for General Motors if other [fol. 4304] companies also came out with the same type finish at approximately the same time as General Motors did.

Q. Now, you have testified a moment ago that in March, 1923, you learned from Mr. Williams that Oakland had decided to use "Duco" commercially. Do you remember when Oakland in fact began to use "Duco" on its cars?

A. In the summer of that same year when they put that new model into production.

Q. Did it first use it on open cars or on closed cars?

A. Open cars.

Q. And did it thereafter use it on closed cars?

A. Yes.

Q. Now, did the other divisions of General Motors adopt "Duco" at the same time that Oakland did?

A. No, sir, not at the same time. They followed at varying intervals. I think Chevrolet was probably next, and then—

Q. Do you remember what the situation was in 1925, so far as concerns the use of "Duco" by the General Motors units?

A. By 1925 it was in use by all of the units except that Cadillac was using it only on request, a certain small percentage of their relatively small production went to "Duco".

Q. Do you remember whether in 1924 or 1925 the Fisher Body Company adopted "Duco"?

A. In 1924 Fisher began to use "Duco" on closed bodies it was making for Oakland. That was the start of Fisher's use.

Q. Prior to that time, that was the time when Fisher Body bought "Duco" from du Pont Company, had it bought any type of automobile finish from any part of the du Pont Company, if you know?

A. Yes, it had bought some materials from Flint Paint & Varnish.

Q. Do you know whether it bought those in substantial [fol. 4305] dollar amounts?

A. Flint, I am sure, didn't have all of their business, but I think it did sell them substantial dollar volume.

RECESS.

[fol. 4306]. The Court: Proceed.

Mr. Cox: I should now like to offer document marked du Pont Exhibit for identification No. 222, schedule of du Pont sales of finishes to Fisher Body and Fisher Body production for the years 1924 to 1927.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 222.)

EDMUND M. FLAHERTY, called as a witness on behalf of the defendant E. I. du Pont de Nemours and Company, having been previously duly sworn, resumed the stand and testified further as follows:

Direct examination (Continued)

By Mr. Cox:

Q. Mr. Flaherty, I am going to ask you to look at this exhibit in a moment.

Mr. Flaherty, do you know enough about buying practices of the automobile industry to tell us at what season of a [fol. 4307] calendar year the automobile companies in the period of time covered by this exhibit, customarily bought supplies for their next year's model?

A. It was customary in this period to start manufacturing the model for a particular year in the summer of the preceding year, and contracts for supplies for that model were normally made in the quarter immediately preceding or sometimes even earlier—in other words, in the first six months of the year.

Mr. Cox: I point out, in connection with du Pont Exhibit No. 222 that in the first two quarters of the year 1924 the du Pont sales of finishes to Fisher Body were \$89,388.00, and \$16,275.00 respectively, and the amount increased in the third and fourth quarters, and the amount for the third quarter being \$200,698.00, and for the fourth quarter, \$332,212.00.

By Mr. Cox:

Q. I take it from your previous answer that those purchases would have been made for use in the next year's model, is that right?

A. Yes, sir.

Q. Now, at this time which I was questioning you about before lunch, which was roughly in 1925, did other motor car companies adopt "Duco" besides General Motors, Mr. Flaherty, if you know?

A. Yes, sir, other companies began to use "Duco."

Q. Prior to the time these other companies began to adopt "Duco," had you or your assistants, to your knowledge, carried on any experimental and developmental work with these companies?

A. Yes, we did.

Q. Can you name some of the companies with which you [fol. 4308] did work of this kind?

A. Chandler, Marmon, Studebaker, Franklin, Nash—I think, I don't recall any more.

Q. Do you remember a car called the "Moon"?

A. The Moon, yes.

Q. Did you do any experimental work for the Moon?

A. Well, we had the Moon on our list, also. That was in Indianapolis. That was an assembled car.

Mr. Cox: At this point I would like to offer a document marked du Pont Exhibit No. 213 for identification, and read one paragraph on page 2 of the document.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 213.)

Mr. Cox: The document reads as follows:

"As a result of visits to automobile plants in the Cleveland district, arrangements have been concluded for demonstrations as soon as the necessary material can be shipped. These demonstrations are scheduled for Jordan, Chandler, Cleveland, Peerless and Land Body Company (manufacturer of Lincoln bodies). In addition to these demonstrations already arranged, requests for demonstrations have been received from Reo, Lincoln, Apperson and Bay State."

This document, I should add for the record, consists of excerpts from the Cellulose Products Department monthly report to the Executive Committee for March, 1923, dated April 23, 1923.

I should also like to offer a document marked 214, du Pont Exhibit No. 214 for identification, which is again an [fol. 4309] excerpt from the monthly report of the Cellulose Products Department to the Executive Committee for September, 1923, dated October 27, 1923.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 214.)

Mr. Cox: I should like to read the third paragraph, the first page, which reads as follows:

"Franklin, Chandler, Moon, Jordan and Cleveland are the most active companies (outside of General Motors) experimenting with 'Duco' at present. The prospects for selling Cleveland at an early date are good. Demonstrations at Hupp and Moon were successful and both have asked for assurance that an uninterrupted supply of 'Duco' in the required quantities is available."

By Mr. Cox:

Q. Mr. Flaherty, in this connection do you remember what motor car company it was that gave the first commercial order for du Pont for "Duco"?

A. The first commercial order was received from Franklin for 500 gallons of black.

Q. Now, by 1925 was there any large manufacturer of automobiles who was not using "Duco" on his car?

A. Ford.

Q. Was there any other?

A. Cadillac, only in small amount, if at all, by then.

Q. Well, apart from Cadillac and Ford, would it be accurate to say that substantially all of the other companies manufacturing automobiles had adopted "Duco" by some time in 1925?

A. Yes, I think it would.

[fol. 4310] Q. Do you recall, Mr. Flaherty, whether the du Pont Company ever carried on an advertising campaign for "Duco"?

A. Yes.

Q. Do you recall when this advertising campaign was carried on?

A. That started, I think, in the spring of 1924.

Mr. Cox: 'At this point I should like to offer a document which has been marked du Pont Exhibit for identification No. 215, which is an advertisement from the Saturday Evening Post, the issue of April 26, 1924, and I should like to have the witness look at that exhibit, if I may.

By Mr. Cox:

Q. Mr. Flaherty, I call your attention to the upper left-hand corner of this advertisement where there is a reference to the use of "Duco" by Cadillac, by Oakland, and also by Cleveland, Franklin, Lexington, Marmon and Moon.

Were any of those cars, Cleveland, Franklin, Lexington, Marmon and Moon manufactured by General Motors?

A. No, sir.

Q. Do you recall whether other similar advertisements were published in national magazines and in trade journals?

A. In trade journals, certainly. I don't recall in the magazines.

Q. In addition to the Saturday Evening Post?

A. Yes.

Q. Do you recall whether those other advertisements referred to these other cars that were not manufactured by General Motors?

A. Yes, I think they did. They followed the form of this very largely.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 215.)

[fol. 4311] By Mr. Cox:

Q. Now, Mr. Flaherty, I want to call your attention to another passage you wrote in the article in the Motor Vehicle Monthly.

This passage appears on page 3 of the exhibit in the second column, I believe, and begins at the foot of the column. The first words in the passage I am going to read are "Under the old paint schedule."

Do you have that? Do you find it?

A. Yes, sir.

Q. (Reading):

"Under the old paint schedule it required 336 hours to paint an Oakland body, while with 'Duco' this time has been cut to 13½ hours. Labor time with conventional materials was 6.728 hours per body, which has been reduced to 5.715 hours with the 'Duco' system. The cost of materials was \$2.33 per body, and it has been reduced to \$2.26, using 'Duco'.

"These are very important savings to a factory in large production, and it should be remembered that with them is produced a finish that in durability is decidedly superior than its more expensive predecessor. The saving in floor space resulting from the increased speed in which 'Duco' can be applied is also an important feature at Oakland. It took over 101,000 square feet of floor area to paint 300 bodies per day when paint and varnish were used, while with 'Duco' this has been reduced to about 73,000 feet; 2,400 bodies formerly were tied up in the painting department, while now only 600 bodies are going through at one [fol. 4312] time. Oakland's experience was that about 20 per cent of the daily production was rejected by the inspectors because of finishing trouble, but since 'Duco' has been adopted this rejection figure has been reduced to 2 per cent.

"There is, therefore, a saving in direct cost, a saving in investment in finished bodies, and a saving in factory space required by the finishing department when 'Duco' is used in place of conventional materials. In addition, there is certainly an intangible good will rapidly built up among automobile users when they have no cause to complain on the finish of their cars."

Q. Mr. Flaherty, do you know whether other automobile companies experienced similar advantages from the use of "Duco"?

A. Yes, that was rather a characteristic report from all of them. There were variations naturally in their finishing methods, type of finish they applied, even in color, but in general they took that form.

Q. Now Mr. Flaherty, I should like to direct your atten-

tion to a subsequent period, that is, to a period—let me define the period for you, the period from 1924 to 1926.

I think during that time you were assistant director of sales of the Chemical Division, is that correct?

A. Yes, sir.

Q. Later were you also director of sales, do you recall?

A. I don't remember when the change came.

Q. Du Pont Exhibit No. 197 shows that from January 1925 to February, 1926, you were director of sales also. Do you recall that?

A. Yes, that is right.

[fol. 4313] Q. Did your duties throughout this period from 1924 to 1926 require you to obtain any information about competing lacquers?

A. Yes, I was supposed to do that.

Q. Did you obtain such information?

A. Yes.

Q. How did you do that?

A. From reports of our salesmen, from personal visits to automobile factories—I sometimes was able to notice competitive products being tested or even being used. Sometimes at meetings of the Paint & Varnish Association I would hear other manufacturers speak of their own sales to automobile companies.

Q. Did you ever test any competitive lacquers in your Laboratory Department?

A. We did, whenever the opportunity offered, whenever we had samples.

Q. Now, after "Duco" was on the market, were competitive lacquers offered for sale to automobile companies, if you know?

A. Yes, sir.

Q. Do you know how the quality of those lacquers compared with the quality of "Duco"?

A. I don't recall in those early years that quality ever matched that of "Duco." We had quite a head start, with the background in the nitrocellulose industry, which most of the competitors lacked at that time, and our product did stay ahead in quality for a number of years.

Q. By that answer, do you mean that the companies who were selling these lacquers had had no previous experience in the manufacture of nitrocellulose?

A. That was true of most of them. Most of those who became prominent in the field of lacquer were the older paint companies to whom this was a new industry. The small number of lacquer manufacturers who had been in business earlier never made much of a success in automobile finishing.

[fol. 4314] Q. In the period before 1920, had the paint companies, of which you speak, sold pyroxylin lacquers, made and sold pyroxylin lacquers?

A. No, sir.

Q. Who carried on a business in the sale of pyroxylin solution in the period before the First World War if you know, Mr. Flaherty?

A. The companies that were in competition with us were the Egyptian Lacquer Company, the Celluloid Zapon Company, Maas & Walstein—I am sure there is one other, but I have forgotten the name. I think there were five in all.

Q. After you offered "Duco" as a finish on the market, do you know what steps, if any, the paint companies took to acquire knowledge about the manufacture of pyroxylin finishes?

A. Some of them resorted to the expedient of hiring men from du Pont. Several of the larger paint companies did that.

Then at a somewhat later date, they were aided greatly by the Hercules Powder Company, which went into the business in a large way of supplying reduced viscosity nitrocellulose, and with the information and help in the manufacturing of lacquers from their product.

Q. Did I understand you to say that some of these paint companies hired employees of du Pont who were familiar with nitrocellulose lacquer?

A. Yes, sir.

Q. Did any company ever try to hire you, Mr. Flaherty?

A. Yes.

Q. In this period from 1924 to 1926, was there any change towards the end of that period in the quality of competitive lacquers being offered?

A. Competitive lacquers began to improve toward the [fol. 4315] end of that period, and I would say it wasn't long after that they were substantially good matches for "Duco."

Q. In this period from 1924 to 1926, can you remember any company in particular that was making a lacquer that was comparable in quality to "Duco"?

A. The first one I recall that seemed to be successful was the Forbes Varnish Company. We found they were successful in selling a black that was a very good quality.

Q. At this time do you recall whether they sold that black to any of the divisions of General Motors?

A. They sold it to Fisher Body.

Q. Mr. Flaherty, let me direct your attention to a subsequent period, which I shall describe as the period from 1927 to 1930.

In that period would you still have any knowledge about comparative lacquers that were being offered in the market?

A. Yes.

Q. Did you obtain your knowledge the same way that you did in the earlier period?

A. Yes.

Q. Was there any change in this period in competitive conditions in the lacquer market?

A. Yes. They began to get more firmly established, even with some of the companies to whom we had originally been selling. The competitive lacquers were sold to Olds, to Cadillac—to mention two of our earlier customers—and some to Fisher.

Q. What about other automobile companies? I mean other than those that were part of General Motors. Was there increased competition for their business?

A. Yes.

Q. Can you name some of the companies who in this [fol. 4316] period from 1927 to 1930 began to sell lacquers that were comparable in quality to "Duco"?

A. Rinshed-Mason and Forbes Varnish. At a somewhat later date than those first two, Sherwin Williams Company, through its subsidiary Acme; also Ditzler and Glidden.

Q. Have you heard of a company called the Jones Dabney Company?

A. Yes.

Q. Did they make any lacquer which they sold to the automobile industry, if you remember?

A. They sold some. I don't recall any particular account they got, but they were active in the lacquer industry. My

impression was they did more with the refinish end of it, but I am not sure.

Q. In this period between 1927 and 1930, if you remember, did the quantity of du Pont's sales of "Duco" to the automobile industry decrease?

A. I don't think the dollar sales decreased as competitive activity became manifest. That was because the industry was on the upgrade then, and perhaps we didn't have as high a percentage, but the volume dollar remained, or even grew, I think, larger than it had been earlier.

Q. When you say that the industry was on the upgrade, will you explain what you mean?

A. The automobile industry was making and selling more cars.

Q. Did du Pont Company take any steps to meet this increased competition in this period, 1927 to 1930?

A. We were compelled, not only, of course, to try to do everything we could technically to improve our quality, but we put in manufacturing capacity in areas other than Parlin and Flint, so that we could give better service, and ultimately we reduced prices.

[fol. 4317] Of course, competitive prices were lower in general than ours.

Q. You referred in your answer to the increase in capacity. Did you do anything at all about the capacity to produce "Duco" at Flint?

A. Yes. We started Flint in a modest way by making the finished product. The semi-finished product they shipped in bulk from Parlin, but as fast as we could put in the manufacturing equipment at Flint, we did it at Flint, so that in the course of a year, Flint was able to do the whole job of making lacquer.

Q. Do you recall when you first began to produce lacquer at Flint?

A. 1926 I would say.

Q. Do you recall when you made a substantial increase in production?

A. 1927.

Q. Your present recollection is that no "Duco" was produced in Flint before 1926, is that right?

A. That is my present recollection.

Q. Now, Mr. Flaherty, there is one more subject I should

like to call your attention to. There is evidence in this case that certain contracts were made in the 1920's between the du Pont Company and General Motors covering the purchase by General Motors of pyroxylin finishes.

Do you recall generally that such contracts existed?

A. Yes, we had contracts.

Q. I should like to call your attention to Defendant's Trial Exhibit, GM 167, a contract dated January 2nd, 1925.

Perhaps at the same time, you might look at GM 179, which is a contract dated July 1, 1925, and GM 184 which is a contract dated January 1, 1926.

Now, if you will look, Mr. Flaherty, at GM 167, you will [fol. 4318] note under the heading of the contract: "Description and quantities:

"Buyer's requirements of Pyroxylin finishes, including 'Duco' and 'Duco' Thinner."

Did you use that wording?

A. Yes.

Q. If you will look at GM 179, you will see at the same place on the contract these words:

"100% of Buyer's requirements and 50% or more of Fisher Body Corporation's requirements of Pyroxylin Finishes, including 'Duco' and 'Duco' Thinner."

And similar language appears on the face of GM 184, which is a contract dated January 1, 1926.

Mr. Flaherty, did a time ever come when you were told or learned that General Motors had refused to renew or make similar contracts in that form?

A. Yes, I think the next year we no longer had a contract which called for 100 per cent, or as a matter of fact, any fixed percentage of our product.

Q. Will you look at GM Exhibit No. 186, which is a contract dated January 1st, 1927, and I call your attention to the fact that under the words: "Description and Quantities," these words appear:

"Buyer's requirements of Seller's make of Pyroxylin Finishes, including 'Duco' and 'Duco' Thinner."

Is that the contract?

A. That is the one I meant, yes. That is really only an option.

Q. Do you recall how or when you learned that General Motors made the decision to make contracts in that form?

A. From a report from our office.

[fols. 4319-4337] Q. After the execution of the contract, which is GM 186, thereafter to your knowledge did any of the divisions of General Motors begin to buy pyroxylin lacquer from some of your competitors?

A. Olds did and Cadillac.

Q. Mr. Flaherty, one more series of questions, and I shall have finished. You have mentioned a number of men who were associated with you.

A. Yes, sir.

Q. In the early period when "Duco" was being experimented with by General Motors, and when it was adopted by General Motors. Those men included Mr. Allen, who was your superior at that time?

A. Yes.

Q. Is Mr. Allen now alive?

A. No, sir.

Q. You also mentioned Mr. Moosmann. Is Mr. Moosmann now alive?

A. No, sir.

Q. You also mentioned Mr. Richter. Is Mr. Richter now alive?

A. No, sir.

Mr. Cox: You may cross examine.

Cross examination

By Mr. Hoyt:

[fol. 4338] Q. Let me follow you.

Beginning in 1933 "Duco" began a policy of reducing its prices?

A. No, the "Duco" licenses were granted then.

Q. But as you said, the "Duco" licenses forbade licensees from selling less than "Duco" prices?

A. Du Pont established minimum prices, yes.

Q. Well, of course, "Duco" was no higher than other companies? It was the same, wasn't it?

A. Yes.

Q. What happened subsequently, when the licenses expired, or with competing companies that were not licensed but sold "Duco"? There were such companies in 1933?

A. Selling? They couldn't sell.

Q. Everybody was under "Duco" in 1933?

A. They had to or violate the patent.

Q. There was no such thing as nitrocellulose lacquer?

A. Everything, they could compete on anything they want—

Q. There was no competitive price, is that what I understand, from 1933, or seventeen years thereafter?

[fols. 4339-4341] Mr. Cox: If it please the Court, I should like to inquire at this point whether the Government is attacking the legality of the licensing system?

Mr. Hoyt: Certainly not.

Mr. Cox: If so, I object on the ground that you tried that issue before a jury and lost.

Mr. Harsha: I think you opened the issue on this and you went into the licensing system, and we are entitled to bring out the details.

Mr. Cox: I have no objection to that, but I want to know if you are attacking it on the legality of the license.

Mr. Harsha: I think we have enough to try right here.

The Court: I think the question is proper. The witness may answer.

Mr. Hoyt: Would you read the question?

(Question read.)

By the Witness:

A. I started to explain that it was not seventeen years, but six or seven years of the life of the patent had already passed before the patents were validated, and before the licenses were issued, so in other words there were ten years left, and there was a minimum price that all licensees had to observe.

Q. Then, are you familiar with what happened after 1943 as to the—

A. From then on prices began to get lower.

[fol. 4342] Q. I call your attention to General Motors Exhibit No. 179 and 186. These are the contracts you testi-

fied to, and the one referring to the entire requirements, and the other refers to requirements of seller's make.

You are familiar with the difference, aren't you?

A. Yes.

Q. I just want to ask a couple of questions on that subject.

Now, in 1925, the contract was 100 per cent of the buyer's requirements, was it not?

A. Yes.

Q. And in 1927 the buyer's requirements of seller's make?

A. Yes.

Q. What happened when this type of contract changed? Let's take the first contract, July 1, 1925. Let's take Chevrolet unit.

At that time, I take it, they bought 100 per cent of their requirements, didn't they?

A. Well, the contract said they did. I think—we always thought there was a small amount bought from other companies, but we got, I am sure, by far the major portion.

Q. When the type of contract was changed on January 19, 1927, what happened to the sales of Chevrolet?

A. I don't think Chevrolet changed materially.

Q. It still continued, didn't it?

A. Chevrolet, yes.

Q. For many years thereafter?

A. Yes, sir.

Q. What happened on the Oakland or Pontiac Division? What changes were there in their purchases under this type of contract?

A. I don't recall whether they changed as soon as that [fols. 4343-4351] or not, but the time came when we began to lose some of the business of all of the other units.

Q. Some?

A. Yes.

Q. I am talking about--how much of the business did you get of theirs?

A. I don't remember the figures. We no longer had it entirely.

Q. Well, did you have it 90 per cent?

A. I don't know.

Q. Two-thirds? Do you remember that?

A. No, I don't. I had no occasion to look it up.

Q. How about Buick?

A. Buick retained most of it.

Q. In other words, this change in the contract made no difference, at least in Chevrolet and Buick?

A. No, Chevrolet and Buick—

Q. You say it did in Pontiac, a little bit?

A. Yes.

Q. I now call your attention to Government's Exhibits Nos. 342, 343 and 344. They all deal with the same subject. Were you familiar with the A. C. Spark Plug Company?

A. They were a General Motors unit and bought some things from us, yes, sir.

Q. In 1926 you were director of sales, weren't you?

A. Yes, sir.

Q. So you would have jurisdiction of sales to that unit?

A. Some interest in it, yes, sir.

[fol. 4352] Mr. Cox: If you will go back to the stand for a moment, Mr. Flaherty, I have two or three questions.

Redirect examination

By Mr. Cox:

Q. Mr. Flaherty, on your cross examination you were asked some questions about du Pont Exhibits Nos. 203, 204, 205, 206, 207, 208 and 209.

Those are letters or communications from Mr. Mougey to other paint companies asking about various types of finishes.

I want to direct your attention in connection with these letters to the year 1922. These letters refer, among other things, to color varnishes. Were they being used to finish cars in 1922?

A. Yes, except for the cars finished in black, they all had color varnish.

Q. Was General Motors using color varnishes to finish its cars?

A. Yes, sir.

Q. There are also references in here to enamels, baking enamels. Were baking enamels being used in 1922 and 1923 as a finish for cars?

A. Ford and Chevrolet were using baking enamels for the entire finish, and many of the companies were using them on fenders.

[fol. 4353] Q. I believe that there is also a reference in one of these letters to a high gloss, quick drying varnish.

Was a varnish of that kind being used at this time, that is to say in 1922?

A. That word "quick-drying" is a little difficult because how quick? They were trying to get the varnishes to dry as rapidly as possible consistent with durability, and they were doing everything they could to speed up the drying, but it was still a matter of hours, not minutes as in the case of "Duco."

Q. Was a finishing varnish being used at that time as the last coat on the finish of a car, if you know?

A. Yes, sir.

Q. Now, it was in this period in 1922 and 1923 that you were trying to persuade General Motors to adopt "Duco", is that right?

A. Yes, sir.

Q. Did you know at that time that General Motors, while that effort was going on, was still trying to get the manufacturers of the old type finishes to improve their product?

A. I didn't know that.

Q. You know it since you have read these letters?

A. Yes, sir.

Mr. Cox: That is all.

(Witness excused.)

Mr. Neitzert: Your Honor, for the next several days our evidence will relate to the trade relations between the du Pont Company, General Motors, and others involving the purchase and sale of coated and combined fabrics.

Our evidence will be largely documentary. However, before presenting our documents, we will call a witness, with your permission, to describe the organization within the du Pont Company that manufactures and sells coated fabrics and to identify the type of fabrics involved and the customers and competitors of the Fabrics Division, and to describe how fabrics are sold and to explain the competitive situation that exists and has existed in this field—

all in so far, of course, as it is material and relevant to the issues involved in this case.

This evidence, we feel, will expedite the presentation of the documents which will be done by another witness.

Our first witness will be Mr. Nickowitz, who is director of sales of the Fabrics Division.

I have placed in a looseleaf binder a copy of the few exhibits that will be referred to or offered in connection with the interrogation of this witness which I will ask the Clerk to hand to your Honor.

The exhibits are arranged in the order in which they will be offered or referred to during the examination of this witness.

MAX N. NICKOWITZ, called as a witness on behalf of the defendants, having been first duly sworn, was examined and testified as follows:

Direct examination

By Mr. Neitzert:

Q. Mr. Nickowitz, will you please state your name and your address for the record, please?

A. Max N. Nickowitz, 281 Lake Avenue, Bridgeport, Connecticut.

Q. What is your position with the du Pont Company at the present time?

A. I am assistant division manager and director of sales of the Fabrics Division of the F&F Department.

[fol. 4355] Q. Where is your office?

A. New York City, Empire State Building.

Q. When did you first start working for the du Pont Company, Mr. Nickowitz?

A. I first started to work for the du Pont Company in the fall of 1919.

Q. Well, when was the first time you started?

A. Well, prior to that in the summer of 1916 when I was a freshman in college, I worked at the Newburgh plant as an inspector for three months.

Q. What was the nature of your duties during this summer you worked as an inspector?

A. I inspected coated fabrics of all types, but most of my time was spent in inspection of automotive fabrics which were being manufactured at Newburgh at that time.

Q. You inspected those fabrics before they were shipped out to the various customers in the automobile industry?

A. That is correct.

Q. Then you went back to college?

A. Yes, sir.

Q. And graduated with a degree in chemistry?

A. Yes, sir.

Q. And I believe you testified that then you started working for the du Pont Company again in 1919?

A. Correct.

Q. What university did you get your degree from?

A. Union University, Schenectady, New York.

Q. Have you been with the du Pont Company continuously?

A. Ever since, yes, sir.

Q. Will you please start with the first position that you worked with the du Pont Company in 1919 and tell us briefly what your duties were in that position, and any such subsequent position, or such positions you have subsequently occupied with the du Pont Company?

[fol. 4356] A. When I was first employed by the du Pont Company in 1919, I was employed in the Newburgh laboratory. That is the laboratory of the Fabrics Division where Fabrikoid was manufactured at Newburgh, New York.

In that assignment, my first assignment was that of a control chemist. My responsibilities included the development and specifications for raw materials, the testing of raw materials, the testing of materials in process and the finished materials, and the evaluation of competitive materials, and later I got into the field of research and development on coated fabrics.

I stayed at Newburgh until 1923, the fall of 1923, when I was transferred from there to Fairfield, Connecticut, where the second plant of our division was located.

At that plant, just before I came there, the chief chemist had resigned and I was asked to go over there until such time as a new chief chemist had been employed.

After I had been there for several weeks, I liked the job there, and was offered a position as chief chemist, and ac-

cepted. Shortly thereafter I was appointed chief chemist.

After that, in 1924, I was appointed technical superintendent. While at Fairfield as chief chemist and technical superintendent, I was in charge of all the control work and testing at the plant.

I supervised the research and development work; I supervised the compounding work on coating compositions, and I later instituted some research problems at our central laboratory in Wilmington.

Also one of the very important functions that I performed while in that position was that of technical sales service representative. I made frequent trips into the field [fol. 4357] for the purpose of interesting our customers in the purchase of our materials from a quality standpoint.

We conducted a very exhaustive test of the servicing performance of our materials and that of competition in all fields that we served from that location.

In 1927, I believe it was, I was appointed assistant plant manager, and in that capacity was responsible for the production and technical work.

Q. Did you continue at that time the technical sales service work?

A. Yes, I did, and shortly thereafter—well, in 1933 I was made plant manager, and continued in that capacity for approximately a year, when I was appointed sales manager and shortly thereafter my headquarters were moved to the Empire State Building in New York where I have been located ever since.

Q. Has your work been sales work since that time?

A. Yes, sir; it has.

Q. Now, since you have been doing sales work, which I believe you said started about 1925, what have been your duties, and what have you done with reference to calling on customers?

A. Well, I have made frequent calls to our more important customers in the various fields. I have spent a good deal of my time calling on sales representatives of our important accounts.

Q. What are your duties now as director of sales?

A. As director of sales, I am in charge of all the sales activities of the Newburgh Division of the F. & F. Department. I am responsible for the pricing, policy, promotional

programs, advertising programs, and responsible for the administration of and the direction of our sales staff, and the sales line groups. By the line groups, I mean our district sales managers and our field salesmen.

[fol. 4358] Q. Do you still call on the more important customers?

A. I do.

Q. Will you please describe how the fabrics division fits into the du Pont organization as a whole?

A. Well, the du Pont Company has ten operating departments of which Fabrics and Finishes is one of the departments. The Fabrics and Finishes Department is composed of two divisions; the Finishes Division, which is charged with the responsibility of manufacturing and developing and sale of finishes.

The Fabrics Division, the headquarters of which is located in New York City is responsible for the manufacture, sale, and development of coated textiles. We also manufacture unsupported vinyl and rubber sheetings. We manufacture vinyl coated fabrics, pyroxylin, synthetic rubber coated fabrics, and synthetic rubber cement.

Q. Does your division have anything to do with the manufacture or sale of artificial fibers, such as nylon, daeron?

A. No, sir, we do not have anything to do with the manufacture of synthetic fibers or textiles per se.

Q. How important a part of the total du Pont organization is the Fabrics Division in terms of percentage to the total company sales?

A. The sales of coated fabrics represents approximately two per cent, two to three per cent of the total sales of the du Pont Company.

Q. That has been true all the years since you have been director of sales?

A. Approximately.

Q. What manufacturing plants operated by the Fabrics Division, and how many men are normally employed in those plants?

A. We have, as I said, two plants, one at Newburgh, New York, where we employ approximately 800 men; and the other at Fairfield, Connecticut, where we employ approximately 310 to 325.

[fol. 4359] Mr. Neitzert: If your Honor please, I offer in evidence Exhibit No. DP 228, which is a diagram showing the plants of the Fabrics Division of the Fabrics and Finishes Department, of the du Pont Company, together with the names of the types or kinds of products which are manufactured in each plant, and some of the uses made of those products.

The names of the products appear in the solid block just immediately below the names of the plants, and the uses of these products are indicated in the boxes that are formed by the dotted lines which are immediately below the names of the products.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 228.)

By Mr. Neitzert:

Q. Mr. Nickowitz, will you please describe very briefly the nature of each of the products shown in this exhibit, and indicate which are the more important of the several uses shown in the exhibit for each of the products.

A. Well, you notice in the boxes on the level under the plants a group of headings, namely, Fabrikoid, PX Cloth, Tontine, et cetera.

The first box on the extreme left, Fabrikoid, pyroxylin coated fabrics, the most important item in that grouping is book binding. The second most important is footwear quarterlining, sock lining, upper materials and platform wrappers.

The third is automobile trim, bindings and welts.

The fourth is furniture upholstery.

Q. How many dollars worth of Fabrikoid is sold normally each year?

A. That business is currently running, oh, between five and six million dollars annually.

[fol. 4360] The next heading is PX Cloth. PX Cloth is used in binding textbooks primarily, and is manufactured by impregnating usually a sheeting, but frequently other fabrics, such as duck, with a pyroxylin solution.

The reason for that is to give you a binding material which is waterproof and verminproof, and which will accept the usual types of inks that are used in identifying books.

Mr. Neitzert: Excuse me a minute. I think your Honor may be interested in, and it may be helpful if I would show you some samples of Fabrikoid and PX Cloth which illustrates this material.

Both of these samples are book binding samples, and the samples illustrate the difference between an impregnated cloth and a coated cloth, which we shall have occasion to refer to later.

These samples have all been examined by the Government, but I don't contemplate offering them in evidence because of the number of copies, that are required, of exhibits.

By Mr. Neitzert:

Q. How many dollars worth of bookbindings in PX cloth are sold annually?

A. In the PX cloth grouping, we sell about \$350,000 to \$400,000 annually.

The next—

Q. Before you go to the next one, the type of Fabrikoid that is used for automobile trim and binding is a heavier type than that type that is included in the set of samples that I have handed to his Honor?

A. Yes, sir.

Mr. Neitzert: I have here a group of samples of the [fol. 4361] heavier type Fabrikoid which show the difference between that and the lighter type that is used for book-binding.

By Mr. Neitzert:

Q. Will you proceed?

A. The next grouping is Tontine. That, like PX cloth, is also a pyroxylin impregnated fabric that we use in the manufacture of washable window shades.

This is construction that was first developed by the du Pont Company at its plant in Newburgh about 1920.

Q. Is that an important item in sales?

A. It is a comparatively important item. The sales run between three million and three and a half million dollars annually.

The next item in this grouping is Teflon Coated Fabrics. That is the polytetrafluoroethylene coated glass fabric,

which has unusually good resistance to high temperatures. It will withstand temperatures as high as 600 and 700 degrees Fahrenheit. It is very inert. It is unaffected by most acids and alkalis, and has extremely good electrical properties.

In addition to the good electrical properties, it has the very unusual quality of not permitting very many things to stick to it, and we have been able to find many applications for which that use is important.

Q. What are the principal ones?

A. We are selling the material in the electrical industry for insulation purposes; to the chemical industry for diaphragms; to the electronics sealing industry where, well, you probably, if you do any shopping for meats in some of the larger meat markets, they will wrap your meat in a transparent film, transparent packaging material, which is [fol. 4362] usually sealed electronically. Teflon is used as a base for the electronic sealing unit because it won't stick to it.

Q. What do the sales run of that product?

A. The sales of that product are currently running about \$800,000 annually."

The next grouping is Pre-Doped Fabrics, which is a pyroxylin coated and impregnated fabric used for covering the control surfaces of airplanes, ailerons, rudders, aircraft.

It is not unlike the material that Mr. Kettering described during his testimony that was formerly used for covering the wings of aircraft.

The next grouping, Fabrilite, you will notice Fabrilite is manufactured at both our Fairfield and our Newburgh plants.

In that grouping, the most important item is automotive upholstery and trim.

The second most important, furniture upholstery. Third, folding door and partition enclosures.

Fourth, footwear.

Q. What is the base from which the Vinyl plastic that is used in coating Fabrilite fabrics made from?

A. Lime, air and water.

Mr. Neitzert: I have more samples of this product.

By Mr. Neitzert:

Q. This is the most important of your coated fabrics, Fabrilite, is it?

A. Yes, it is. Sales on that item are currently running about \$10,000,000.00 annually.

Mr. Neitzert: Your Honor will be able to compare Fabrilite [fol. 4363] with the group of samples I have just handed to the clerk with natural leather, if you will lay it beside the arms of the chair in which you are sitting.

I have also handed your Honor a sample of Fabrilite which is made up to look like cloth. Having been able to make cloth look like leather, they are now busily engaged in making leather look like cloth.

By Mr. Neitzert:

Q. Will you proceed with the description of the products?

A. The next item to the right is Fabrilite vinyl plastic sheeting without fabric.

That is used by us primarily to meet the requirements of the handbag and pocketbook industries and gun cases.

Other suppliers supply quantities of that to the furniture industry, and some small quantities to the automobile industry.

Q. The only difference between the plastic sheeting and the plastic coated fabric is that plastic sheeting does not have a cloth backing. Is that correct?

A. That is correct.

Q. How large are your sales of plastic sheeting?

A. About \$900,000.00 annually at the current rate.

The next item is rubberized fabrics. That is a relatively small grouping with us now.

The most important item in that grouping is explosive powder bags. That is a rubberized fabric bag used for transporting powder in mines. The second most important item is protective clothing, work clothing.

The next grouping is Fairprene synthetic rubber coated fabric.

These materials are almost entirely used for industrial purposes, and are made by coating various types of fabrics, [fol. 4364] cotton, nylon, orlon, Egyptian cotton, with our neoprene synthetic rubber, and for some special applica-

tions, some of our special neoprenes or other synthetic rubbers.

Q. Is that an important item in dollar sales?

A. That is an important item, and one which is growing in importance. The biggest field that we are currently selling these materials in are for diaphragms and gaskets and curing bags, and that market currently runs about two and three-quarter million dollars annually.

The next item to the right of that is Fairprene industrial cements. We specialize in synthetic rubber cements primarily for use in conjunction with the products which we manufacture, that is, the coated fabrics and unsupported materials that we manufacture from synthetic rubbers.

The next grouping to the right of that is Fairprene synthetic rubber sheet stock. That grouping consists of compositions without fabric backing.

Our major markets there are gaskets and packings, and that is at this point still comparatively low, \$250,000.00 annually.

The next item to the right of that is Rug anchor, which is a synthetic rubber and natural rubber combination made in the form of a thin sponge to prevent throw-rugs from slipping on highly polished floors.

We sell about \$350,000.00 of that type of material annually.

The next item to the right of that is Fairprene P.A.W. tape, which is a protective and waterstop neoprene coated fabric, which we sell as a seam sealant to take up the unevenness of metal surfaces in watertight tanks, and is [fol. 4365] also used quite widely in the shipbuilding and aircraft industry to protect against galvanic action between two dissimilar metals; for example, where steel and aluminum come together, this prevents that action.

The next item to the right of that is Ventube, a rubberized flexible tubing, which we manufacture. We manufacture the completed tube in this grouping from rubberized fabrics produced in our Fairfield plant.

The Ventube is used primarily in the mining industry, to afford ventilation, particularly from the obnoxious gases of the explosives used in coal and copper mining.

It is also used in tunnel work and cleaning tanks, and the final grouping on the right-hand side of the sheet is Teal.

That is a double texture material, that is two fabrics cemented together with synthetic rubber and is used exclusively for tops of sport type automobiles.

Q. What are your sales of Teal per year?

A. They are running about a half a million dollars.

Mr. Neitzert: We shall have occasion, your Honor, to refer continuously or frequently to the difference between a coated fabric, and a painted coated fabric, such as Teal.

I should like to hand to your Honor a sample which will illustrate the difference in these two types of fabrics.

By Mr. Neitzert:

Q. Now, Mr. Nickowitz, what percentage of the total sales of fabrics division of these types of products is to the automotive industry?

A. Approximately 20 per cent.

Q. How long has that been true?

A. That has been true since I have been director of sales, since 1944.

[fols. 4366-4367] Q. Do you recall what the percentage was during the 1930's?

A. It was about 15 per cent in that period.

Mr. Neitzert: Your Honor, I would like to take up another subject now.

ADJOURNMENT.

[fol. 4368] Direct examination (Continued)

By Mr. Neitzert:

Q. Referring again for a few minutes to Exhibit DP 228, I have a few preliminary questions about the acquisition and early history of the Newburgh and Fairfield plants. [fol. 4369] When did the du Pont Company acquire the Newburgh plant?

A. The du Pont Company acquired the Newburgh plant in 1910.

Q. Of these products shown on Exhibit No. 228, which, if any, were then manufactured by the du Pont "Fabrikoid" plant?

A. Just the "Fabrikoid."

Q. "Fabrikoid" was an artificial leather?

A. That is correct.

Q. And the name, "Fabrikoid," was just du Pont's trade name for its artificial leather, is that correct?

A. No. It was called "Fabrikoid" prior to that.

Q. The company from which the plant was acquired also called the product "Fabrikoid"?

A. Correct.

Q. What uses were being made of artificial leather at that time?

A. It was being used for bookbinding, luggage covering materials, case covering novelties, and to a limited degree in the automotive industry for trim.

Q. You say to a limited degree?

A. Yes.

Q. Why was that?

A. The product wasn't adequate at that time for upholstery purposes. It had an unpleasant odor. The quality was not good. The simulation of leather from an appearance standpoint was inadequate. Primarily the film strength wasn't good enough for as important a use as automobile upholstery.

It was used for upholstery in cheap furniture at that time, but it just about got by.

Q. Do you know what, if anything, the du Pont Company did to improve the quality of "Fabrikoid" after it purchased this plant?

A. I know, that shortly after the du Pont Company had [fol. 4370] acquired the plant, that chemical projects had been started at the Parlin plant, where lacquers were made and nitrocellulose produced, and at the Experimental Station.

As a result of that work, an improved base was developed and better solvent compositions were formulated.

Prior to that work, the active solvents that were used in dissolving nitrocellulose were amyl acetate and acetone, and those solvents left a residual odor in the film. About that time, or shortly prior to that, the Government had removed the tax on industrial alcohol, which, with the resultant lowered cost of alcohol for industrial purposes, made it possible to use it in formulating solvent compositions in the conversion of guncotton to nitrocellulose dopes for application to fabric.

That went a large way toward improving the objectionable odor of "Fabrikoid."

Another accomplishment was in the elimination of the use of celluloid scrap. Many of the manufacturers of artificial leather in those days, in an effort to attain lower costs, had used celluloid scrap, film scrap, which was plasticized with camphor, and because of the camphor, had an objectionable odor.

It was decided in the "Fabrikoid" business to use virgin nitrocellulose and castor oil with low residual acid content, which gave a product with very little odor, and the odor that was present was masked with a masking agent that had been procured in connection with the research work that had been done, a substance called Russian leather odor, which imparted to the "Fabrikoid" a leather-like odor.

The fabrics that had been used in making heavy "Fabrikoid" at that time were rather coarse and harsh. Work had been done in the development of a construction which was called moleskin.

[fol. 4371] This was a heavy cotton fabric with three strands of cotton running in the warp or longitudinal direction, interwoven with two strands of slightly twisted cotton running in the horizontal direction.

That permitted the material to be scratched, that is, you could scratch up the surface of the cloth and give it a soft, pliable finish similar to good grades of leather.

The combination of these improvements resulted in a material which was better suited for automotive upholstery than anything that had previously been formulated.

Q. How was the new product accepted by the automobile industry?

A. It was enthusiastically accepted, and the first purchase was by the Ford Motor Company, I believe, in 1913.

Q. The du Pont Company was the first company to develop artificial leather that could be used extensively by the automobile industry?

A. I believe so.

Mr. Neitzert: Your Honor, I offer in evidence Defendants' Exhibit, DP 229, which is an excerpt from an organizational chart of the experimental station of the du Pont Company, and it is dated May 1, 1912, and it shows the number of chemists that were working on pyroxylin solvents

and artificial leather in 1912, which was shortly after the Fabrikoid Company was acquired by the du Pont Company.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 229.)

Mr. Neitzert: I also offer in evidence Defendants' Exhibit DP No. 230, which is an excerpt from a letter from Charles L. Patterson, vice president, to the Executive Committee of the du Pont Powder Company, dated June 28, 1913.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 230.)

Mr. Neitzert: The name of what is now the du Pont Company was then the du Pont Powder Company, was it not, Mr. Nickowitz?

A. Yes, sir.

Mr. Neitzert: I will read the second paragraph of DP 230:

"Sales of Fabrikoid for the month of May amounted to \$118,760.34 as against \$99,074.19 in May 1912 and \$51,775.36 in the same month 1911. This business generally falls off during the summer season, but the prospects indicate that our increase over last year will continue to be considerable. Both the Hupp and Metz automobile people have been using our Heavy Goods for upholstering for six months past, and other large automobile manufacturers are considering doing so."

By Mr. Neitzert:

Q. Were the Hupp and Metz companies large manufacturers of automobiles at this time?

A. I don't know.

Q. Was the heavy goods for upholstery, which is referred to in this exhibit, the improved "Fabrikoid" that was made by the du Pont Company as you have testified?

A. I believe it was.

Mr. Neitzert: I offer in evidence Defendant's Exhibit DP 231, which is also an excerpt from a letter from Charles [fol. 4373] L. Patterson, vice president, to the Executive Committee of the du Pont Powder Company.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 231.)

Mr. Neitzert: This letter is dated August 2nd, 1913. I will read the second and third paragraphs:

"Fabrikoid sales in June amounted to \$120,574 as compared with \$79,914 in June 1912 and \$57,644 in June 1911. There has been some falling off in the sale of light goods, which we believe is due principally to the season."

By Mr. Neitzert:

Q. Mr. Nickowitz, was light goods used by the automobile industry at this time?

A. No, sir.

Mr. Neitzert: (Reading):

"Heavy qualities are holding up well, and sales of combined goods are ahead of last year. Our total business for the six months 1913 is larger than the total business done during the entire year 1911.

"The Ford Automobile people have indicated their intention of adopting artificial leather for their cars, if the trials work out satisfactorily, and we have on hand orders at the present time, and hope to get standing orders for a large part of their business in the near future."

I offer in evidence Defendant's Exhibit DP 232, which is an excerpt from the report of the Sales Department to the [fol. 4374] Executive Committee of the du Pont Company for the month of November, 1913. This report is dated January 2, 1914.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 232.)

Mr. Neitzert: This is dated January 2nd, 1914. The excerpt is as follows:

"Business on light weight goods has fallen off to some extent, due almost entirely we feel to a general tendency to 'hold off'. Heavy goods business shows a very large increase due to the adoption of our goods by

the automobile manufacturers for upholstering. We feel that we can count on gratifying sales of heavy goods for some months to come."

I also offer in evidence Defendant's Exhibit DP 233, which is an excerpt of the report of the Sales Department to the Executive Committee of the du Pont Powder Company, dated January 26, 1914.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 233.)

Mr. Neitzert: I will read the first three paragraphs:

"We are supplying Ford Co. with approximately 3500 yds. Fabrikoid per day, on orders that could be cancelled in 24 hours, have no contract with them.

"Policy of Ford Co. is not to contract for supplies unless they cannot be otherwise secured. We are advised that we have about 65% of Ford's business.

[fol. 4375] "Ford expects to turn out at least 250,000 cars this year and we understand Fabrikoid is entirely satisfactory, and they have no intention of making any change."

I also offer in evidence Defendant's Exhibit DP 234, which is an excerpt from the report of the Sales Department to the Executive Committee of the du Pont Powder Company for September, 1914, and it is dated November 24th, 1914:

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 234.)

Mr. Neitzert: I will read the fifth paragraph, the last paragraph before the note:

"We have renewed arrangements for 1914-1915 with the Ford Motor Co., have also secured some good business with the Willys-Overland Company, and have good prospects of regaining the Hupp Motor Company's trade, so that with other smaller new business prospects for heavy goods, the outlook is encouraging."

I offer in evidence Defendant's Exhibit DP 235, which is an excerpt from the report by William Coyne, Director of Sales, to the Executive Committee of the du Pont Company for the month of February, 1915.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 235.)

Mr. Neitzert: This report bears date March 31, 1915. I will read only the last paragraph:

[fol. 4376] "Heavy goods trade, also, shows material improvement, and we look for continued increased demand. We have closed contract with the Willys-Overland Company, which will aggregate 300,000 yds. artificial leather and approximately 1,000,000 yds. of mohair per annum."

By Mr. Neitzert:

Q. Mr. Nickowitz, what is this fabric that is referred to here as mohair?

A. Mohair is, or was, rather, a double texture material used for open cars. By double texture material, I mean two fabrics stuck together with a rubber cement, or a pyroxylin-cement as was the case in this particular instance. Mohair was a mixture of cotton and camel hair to produce a silk-like surface. It was used for tops on open automobiles.

Q. Side curtains also?

A. Side curtains also.

Q. Was that one of the products that the du Pont Company developed at Newburgh to go with their artificial leather upholstery?

A. Yes, sir.

Mr. Neitzert: I offer in evidence Defendants' DP Exhibit No. 236, which is also an excerpt from the report from William Coyne, director of sales, to the Executive Committee.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 236.)

Mr. Neitzert: This report is for the month of March, 1915, and it was dated April 30, 1915.

I will read the first, third and fourth paragraphs:

[fol. 4377] "Total sales for March, 1915, were \$248,214.67 as compared with \$176,685.83 in March, 1914, and \$134,283.19 in March, 1913.

"Heavy goods business shows a gratifying increase due principally to the suddenly increased demand from the automobile trade. Outlook for these lines very promising, and with return of normal business we expect to show steadily increasing sales.

"On combined goods we are making good progress, due mainly to the large contract with the Willys-Overland Company for all their top materials for the years 1915 and 1916."

By Mr. Neitzert:

Q. The combined goods there referred to is what?

A. We had two types of combined goods that we produced at Newburgh. One was a pyroxylin coated material we combined with a cotton fabric, with a pyroxylin-cement, and the other was a mohair type of material which I have described just a moment ago.

Q. Are both materials used for the same purpose?

A. Both materials are used for the same purpose.

Q. Was one of these materials sold under a trade name by the du Pont Company?

A. Yes, sir.

Q. Which one was it?

A. The pyroxylin surfaced material was called "Rayntite."

Q. Was the du Pont Company still selling these fabrics to Willys-Overland when you started working for the company in 1919?

A. They had discontinued manufacturing "Rayntite," [fol. 4378] or mohair, rather, when I came with the company in 1919, and were in the process of discontinuing the manufacture of "Rayntite."

There was still some "Rayntite" material coming into the laboratory for routine control tests, but we were in the process of getting out of it.

Q. My question went rather to the question of whether or not Willys-Overland was still a customer in 1919.

A. Yes, sir.

Mr. Neitzert: Will you please show the witness a document which has been marked DP-237 for identification?

That document, your Honor, contains excerpts from a schedule of accounts receivable of the Fabrikoid agency of the du Pont Powder Company, and it is dated July 31, 1913.

Q. Do you know what happened to the Fabrikoid business of the du Pont Company at that time, Mr. Nickowitz?

A. Well, I know that at this particular time the du Pont Fabrikoid Company was formed and took over the Fabrikoid business from the du Pont Powder Company.

Q. This schedule of accounts receivable from which DP-237 is taken was found in the files relating to that transaction, was it not?

A. That is correct.

Q. Now, what do these excerpts from the schedule of accounts receivable of the Fabrikoid agency of the du Pont Powder Company show?

Mr. Harsha: Your Honor, in connection with this exhibit, the Government would like to interpose an objection. We fail to see anything relevant in this document, and, further, we find that it seems to us that it is entirely fragmentary.

[fol. 4379] It does not attempt to give any picture of the scope of the business over any particular period of time. It is merely the accounts receivable as of a particular date in 1913, and I don't think it has any relevance in either proving or disproving the issues in this case.

Mr. Neitzert: If I may address myself to this subject for the moment, it is alleged in the complaint in this case that, with the purchase of the General Motors stock, the du Pont Company acquired the coated fabric business of the General Motors Companies.

In the evidence which we shall offer, we will show that, prior to the acquisition of the stock of the General Motors Company, the du Pont Company already sold a greater percentage of the requirements of the General Motors Company of coated fabrics of the kinds then manufactured by the du Pont Company than it did during any other period after the acquisition of that stock, except possibly for one year.

Now, we are dealing here with a period which is still some time back. We have to use what evidence there is available to us, of course. I have been unable to find but one person that was intimately associated with the official group that were running the Fabrikoid agency at that time, and unfortunately he is past eighty years old, and although we gave his name to the Government, his condition is not such that he can testify.

So that, our case during this period must largely be based upon documentary proof.

We have brought forth such documentary proof as we have which bears on the subject; and one of the documents [fol. 4380] that we considered of particular value was this schedule of accounts receivable which was prepared in connection with the transfer of the business of the Newburgh plant to a separate corporation.

This accounts receivable schedule shows all of the customers of the du Pont Fabrikoid agency that owed any money to the company as of July 31, 1913.

It is true we may have had many other customers. On this list are only the customers that happened to have a balance outstanding due us on that date; but we have present in court the original schedule, which we will be glad to show to the Government, if they want it. They have not requested it. This is an excerpt, so we won't have to put in the longer schedule which has been made subject to an agreement that we have had with the Government relating to the preparation of excerpts. It shows on page 1 a list of the customers appearing on the accounts receivable as owing the du Pont Company money on July 31, 1913. Your Honor will see that there appears on that list, among others, Cadillac Motor Car Company, a General Motors Company; the Oakland Motor Car Company, a General Motors Company; the Olds Motor Works Company, a General Motors Company, and possibly others, although I believe those are all of the companies.

On the second page is a list of companies that we are reasonably certain were engaged in the automobile business at that time, such as the Austin Car Company, although we cannot be absolutely certain of all of them, but we think that they were; and then the table on the third page shows the

ratio between the number of customers both in and thought [fol. 4381] to be in the automobile industry, to the total number of customers that appears on the schedule of accounts receivable.

Now, in view of the ancient character of the evidence which is available to us at this time, it seems to me that this is not only valuable proof of the fact that we were serving the General Motors Companies at this time, but that we were, as the witness has testified, predominant in this field and were serving many other automobile companies.

The Court: Oh, I think it is competent. Overrule the objection.

Mr. Neitzert: Well, to make a long story short, unless the Government objects to it,—I have done so much testifying—I can cut this a little short by asking the witness if I have correctly stated the facts with respect to this exhibit.

Mr. Harshar: We have no objection.

By the Witness:

A. Yes, sir.

By Mr. Neitzert:

Q. What is your answer?

A. Yes, sir.

Mr. Neitzert: I call the Court's attention to the fact that on page 1 in addition to the names of the Cadillac Motor Car Company and the Oakland Motor Works and the Olds Motor Works, there appear the names of the Ford Motor Company and the Hupp and Metz Companies; and on page 3, if the Court please, it appears that there were a total of 820 names on the list of accounts receivable; 35 of them appear on page 1, and have been identified as companies engaged in the automobile industry; 58 of them appear on [fol. 4382] page 2, and we believe that they were also engaged then in the manufacture of automobiles, automobile parts or accessories; and 11.34 per cent of the total names on the schedule of accounts receivable are reproduced in lists A and B as shown on pages 1 and 2.

I offer in evidence the document marked DP Exhibit No. 237.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 237.)

By Mr. Neitzert:

Q. Referring more particularly to the three General Motors Companies shown on page 1—Cadillac Motor Company, Oakland Motor Car Company, and the Olds Motor Works—which, if any, of those three companies were receiving shipments of "Fabrikoid" that was being inspected by you in the Newburgh plant in the summer of 1916?

A. All three.

Q. Do you have any recollection as to whether or not large or small quantities were passing through the plant and being shipped to these three customers?

A. I am sorry. My recollection of that isn't too vivid. I know that it was in sufficiently large quantities that I remember materials going to them.

Most of the material that I inspected at that time was automotive. Some inspectors specialized in automotive fabrics, and others specialized in bookbinding and luggage materials.

I remember very distinctly materials going to them, [fol. 4383] and I remember more distinctly substantially larger quantities going to Ford, for example.

Mr. Neitzert: If it please the Court, I offer in evidence DP Exhibit No. 238, which is a letter from Vice-President Brown, of the du Pont Company, transmitting to the directors of the du Pont Fabrikoid Company a report of the Operating Department for the month of May, 1916.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 238.)

By Mr. Neitzert:

Q. Was Mr. Brown, in 1916, a vice-president of the du Pont Company or a vice-president of the du Pont Fabrikoid Company, if you know?

A. I believe he was a vice-president of the du Pont Company.

Mr. Neitzert: The second page of the exhibit is the report transmitted, which appears to have been prepared by one Frederick Kniffen, director of operations.

I will read only a few excerpts from that report, beginning with the first paragraph:

"The conditions noted in previous months have continued, the output showing further increases. Expressed in standard units, the following figures are of importance:"

Then follows a table showing average daily orders for a period including the years 1914 to June, 1916, inclusive, and showing an increase in average daily orders from 7,600 units in 1914 to 43,000 units in 1916.

[fol. 4384] By Mr. Neitzert:

Q. What were the units referred to in this report?

A. I believe they were lineal yards, which was then and still is the unit in which we discuss production of coated fabrics.

Mr. Neitzert: The paragraph following the table is as follows:

"Analysis of the orders received sheds some light upon the contract shown between the 23,000 received in May and the 43,000 received in June. The difference is due to three large automobile companies having placed in June orders for delivery from July to December. The orders from other sources averaged 16,600 per day. The average daily requirements estimated by the Sales Department for the four large automobile customers whom we are serving regularly (Overland, Ford, Chevrolet and Buick) are 16,200 units; making a total of 32,800 units per day representing the present rate of receipt of orders."

By Mr. Neitzert:

Q. Mr. Nickowitz, do you know when the du Pont Company first started selling coated fabrics to Chevrolet and Buick, who are mentioned as two of the four large automobile customers that the du Pont Company was serving regularly in 1916?

A. I do not.

Mr. Neitzert: I offer in evidence DP Exhibit No. 239, which is an advertisement from the du Pont magazine of February, 1916.

[fol. 4385] * (Said document, so offered and received in evidence, was marked du Pont Exhibit No. 239.)

Mr. Neitzert: I will read part of the exhibit, beginning with the third paragraph:

"Of the million autos that will be sold in 1916, 75% will be standardized cars selling for less than \$1000.00 each. This remarkable American achievement is the result of standardizing motors, starters, carburetors, speedometers, ignition and lighting systems, transmissions, differentials, tires, wheels, axles, rims, bearings, etc."

"Finally the upholstery has been standardized by the almost universal adoption of du Pont Fabrikoid Motor Quality."

"40% of all 1915 cars sold were upholstered in this proved, guaranteed material, and in 1916 the total will be nearly 60%."

By Mr. Neitzert:

Q. When did the du Pont Company acquire the Fairfield Rubber plant?

A. In 1916, I believe it was in July.

Q. What product or products were manufactured at the Fairfield plant at that time?

A. The Fairfield plant manufactured rubberized auto topping.

Q. Was that a rubber coated material?

A. Yes, it was rubberized.

Q. To whom was the product sold?

A. Most of the output of the plant was sold to the Ford Motor Company.

[fol. 4386] Mr. Neitzert: I refer, if your Honor please, to Government Trial Exhibit No. 107, which is a report on the Fairfield Rubber Company from the Development Department of the du Pont Company, dated May 26, 1916, and a letter of transmittal dated May 27, 1916, signed by Mr. R. R. M. Carpenter, vice president.

With the Court's permission I will read two paragraphs toward the bottom of page 3:

"The principal business of the Fairfield Rubber Company is the manufacture of rubber coated cloths

for automobile and carriage tops. Of recent years the Ford business has constituted the largest factor of their business and at the present time constitutes probably 60% of their total business. The Ford material is used on the flat part of the Ford tops, which receives the hardest wear. The rounded sides of the Ford top are made of a cheaper material inasmuch that does not receive the hard wear which the top does.

"In addition to the Ford business they sell to some other automobile manufacturers, but their sales are very largely through jobbing houses, and they are not acquainted as to just who uses their material."

By Mr. Neitzert:

Q. What was this single texture rubber coated top material called in the trade?

A. It was called Ford decking.

Q. Also sometimes Ford rubber?

A. Ford rubber.

Mr. Neitzert: I would also like to call attention to page 18 of the exhibit, the very last paragraph at the bottom of the page:

[fol. 4387] "Rubber tops for automobiles seem to be giving very good satisfaction, and we have lost many good accounts on automobile top goods because of the lower cost of rubber. Therefore, to have this plant would enable us to get at least our share of this business, which should be large."

On page 20, in a letter from Mr. Frederick Kniffen, to the Development Department, the first paragraph is as follows:

"Excluding Combined Mohairs, we now have Double Texture."

By Mr. Neitzert:

Q. Was that "Rayntite", that double texture?

A. Yes.

Mr. Neitzert: (Reading):

"Excluding Combined Mohairs, we now have Double Texture catering to the high class vehicle top trade."

and Single Texture Fabrikoid, catering to medium to low class trade. By the possession of rubber coated fabric we would be able to cover the entire field; when thinly applied the rubber-coated goods would provide the cheapest type of cover, and when more thickly applied they would satisfy that portion of the trade, such as the Ford Motor Company, which requires something better than the very cheapest but insists upon a greater weight and thickness in the finished goods than possessed by our present Single Texture Fabrikoid auto material. In short, the proposed addition would enable us to cover the whole field.

[fol. 4388] By Mr. Neitzert:

Q. Do you know who Mr. Frederick Kniffen was in 1916?

A. Yes. He was director of production of Fabrikoid.

Q. Was it after the acquisition of the Fairfield Rubber plant that du Pont discontinued the manufacture of the top materials at Newburgh which you have described and which have been referred to in these exhibits?

A. Yes.

Q. Or before?

A. After.

Q. I want to ask you some questions now about the present customers of the Fabrics Division.

What customers do you have in the automotive industry at the present time?

A. Fisher Body; Chevrolet Commercial; General Motors Truck; Ford Motor Company; Wayne Body Works; Cushman Body; Mid-State—

Q. Mid-State what?

A. Mid-States Body; Ionia Body; Mack Truck; Carter Carburetor; Electric Autolite; Delco-Remy, Anderson Division.

Q. Studebaker?

A. Studebaker.

Q. Checker Cab?

A. Oh, yes, Checker Cab.

Q. And International Harvester?

A. International Harvester.

Q. What is the business of the Detroit Gasket & Manufacturing Company?

A. Detroit Gasket & Manufacturing Company manufactures diaphragms from our Fairprene coated fabrics for use in automotive accessories. We also sell Trico diaphragm materials for use in automotive windshield wipers.

Q. Mr. Nickowitz, preliminary to a closer look at the situation in the automobile industry, will you please state [fol. 4389] who are your principal customers outside of the automobile industry, and what uses they make of your coated fabrics and your combined fabrics, and what percentage of the total requirements of some of these customers is purchased from the du Pont Company.

A. Fabric Leather is our New York distributor of handbag and upholstery materials to the furniture trade. They buy all of their requirements of both upholstery and handbag material from us. They do have a subsidiary, however, which buys a small quantity of handbag material from other sources, but their upholstery purchases are exclusively from du Pont and Fabric Leather's handbag purchases are exclusively from du Pont. They have been our exclusive distributors in that field for over twenty-five years.

Their business varies. It has exceeded a million dollars and—

Q. A million dollars per year?

A. A million dollars per year, and has been in recent years between three-quarters of a million dollars and a million dollars annually.

Another important distributor we had is the Phillips Premier Company, which specializes in shoe materials. They are located in Boston. Their purchases are in excess of a million dollars annually, and they buy our fabrics exclusively, and they buy no coated fabrics from anyone else. They have been our exclusive distributors for at least twelve years, probably a little longer. I am not absolutely certain as to the length of time.

In the book binding field we have the four leading distributors in the country. William J. McLaughlin Company, Philadelphia, purchases all its coated fabric requirements [fol. 4390] from du Pont, and its purchases are, in the vicinity of about a half million dollars annually.

Slade, Hipp & Meloy, located in Chicago, buy about eighty percent of all their coated fabrics from us. They buy all

of their coated fabric from us, but they buy some impregnated fabrics from one of our competitors. And they have been book-binding distributors of ours for in excess of twenty-five years.

Griffen, Campbell, Hayes & Walsh, which have offices in Boston, New York and Chicago, buy seventy-five percent of all of their coated fabrics from us, and their purchases are in excess of a half million dollars annually.

And the fourth one is Gane Brothers & Lane with offices in St. Louis, Chicago, Los Angeles and San Francisco, and they are currently buying in excess of seventy-five percent of their requirements from us. They buy all of their coated fabrics from us, but buy some impregnated cloth elsewhere.

In the furniture field, office furniture, we sell the General Fireproofing Company almost 100 percent of their requirements. The only purchases they make from others than du Pont are those which are specified by their customers, and that represents a very small portion.

Q. Is General Fireproofing Company the largest manufacturer of office furniture?

A. They are the largest manufacturer of office furniture.

The American Seating Company, which is the largest theatre and auditorium seat manufacturer buys almost all of their requirements from us. They buy all of their requirements from us except an occasional order where a theatre operator or a designer has picked some particular [fol. 4391] color that one of our competitors might have, but that is very infrequent.

The Economy Furniture Company at Austin, Texas, buys all of their coated fabric requirements from us, and many other furniture manufacturers.

Q. Generally, you supply all of the large furniture manufacturers with substantially all of their coated fabrics?

A. I would say that we supply many of the larger ones, not all of the larger ones.

Q. Mr. Nickowitz, you talked about the book-binding distributors. What about the large publishing houses?

A. We sell some publishing houses direct; for example, Crowell-Collier buy at least seventy-five percent of their requirements from us.

National Blank buys 100 percent of their coated fabrics from us. They are large manufacturers of loose-leaf binders,

Q. What about the West Publishing Company?

A. The West Publishing Company buys all of their requirements from us. They buy "PX" cloth which is an impregnated book cloth. I guess I do not have to tell you lawyers about that. It is probably one of the largest publishers of legal books in the country.

The Court: The Court stands recessed for fifteen minutes.

(A recess was here taken.)

The Court: Proceed, please.

By Mr. Neitzert:

Q. Mr. Nickowitz, you were naming some of the more important customers of the Fabrics Division at the time of the recess.

[fol. 4392] Will you please continue?

A. Another manufacturer to whom we sell all of their coated fabrics requirements is the Singer Sewing Machine. They buy all of their upholstery fabrics for sewing machine stools from us. That business runs about \$75,000.00 annually.

Anaconda Copper Mining Company—

Mr. Harsha: May it please the Court, I wonder if it is really necessary to burden the record with this detailed analysis of the non-automobile customers of "Fabrikoid". It seems to me, if the defense wishes to place in the record this type of information, it can be done much more simply merely by putting in the record some sort of an analysis of what their sales records show, rather than having the witness detail each one of the customers of the du Pont Company in this field.

Mr. Neitzert: If your Honor please, the purpose of this testimony is to show that the pattern of our sales, both with respect to the percentage of the requirements and size of the company served, outside of the automotive field is not unlike the pattern within the automotive field.

Now, as to the value of that type of proof unless the Government contends there is some type of combination and conspiracy that brings us our business outside of the automobile field, why, obviously there is the same natural

cause for the pattern of our sales within the automotive field as there is outside of it.

I think it can best be presented orally by this witness, who states who our customers are outside of the automotive field, what the size of the sales to them is, what positions these customers occupy in their respective industries— [fol. 4393] Mr. Hārsha: Maybe I did not make myself clear. Our objection does not go to the competency of this evidence, but to the method of presentation. It seems to me that the Court and the record can be spared the burden of a long string of testimony on all these various customers if an analysis of some sort of the current accounts is brought in.

The Court: I imagine the evidence at this point is just about complete now, isn't it?

Mr. Neitzert: Yes, it is.

The Court: Proceed.

By the Witness:

A. (Continuing) Anaconda Copper Mining, which is one of the largest copper producing companies in the world, buy all of their rubberized fabrics for mine ventilations. For example, last year they bought over twenty miles of coated fabric for ventilating their mines in the Montana district.

Julius Resnick, Incorporated, New York, of New York City, are the largest manufacturers of popular priced handbags in the United States. They buy 95 percent of their requirements from us of the types of material we manufacture. L. C. Smith and Corona Typewriter Company buy all of their coated fabrics for their machine cover requirements. I want to correct that. They buy about 75 percent of their coated fabric machine cover requirements from us.

In the automotive accessory field—

Q. Before you get to the automotive accessory field, will you please comment upon the surgical tape industry [fol. 4394] and the window shade industry?

A. In the surgical tape field we sell three of the four largest manufacturers in the country, all of their requirements for coated fabrics: Johnson & Johnson, Bay Company, and the Seamless Rubber Company of New Haven.

Their total purchases are in the neighborhood of about \$2,000,000.

The one company we do not supply is B&B—Bauer & Black.

The Andrew Dutton Company of Boston are a large distributor of our "Tontine" window shade materials and their annual purchases are approximately a half million dollars, and they buy all of their requirements of this type of material from us.

Q. Do you sell Sears Roebuck?

A. We sell Sears Roebuck the best qualities of upholstery material that they sell at retail, and we sell them, and have for the last fifteen or twenty years, all of their requirements of that type of fabric.

Q. Now, Mr. Nickowitz, who are the principal competitors of the du Pont Fabrics Division?

A. The Masland Durable Leather Company, Federaleather Company, Textileather, Bolta Products Sales, United States Rubber Company, B. F. Goodrich Company, Goodall-Sanford, Vulcan-Proofing Company. They are about the chief ones.

There are numerous other small companies.

Q. Which of these companies compete with du Pont for the automotive business?

A. In the automotive field, the business is shared largely with du Pont by Federaleather, Textileather, Goodall-Sanford, Weymouth Art Leather, Landers Brothers, U. S. Rubber, and to a lesser degree by B. F. Goodrich.

[fol. 4395] Q. Is Haartz Auto Fabric—

A. Haartz Auto Fabric is the largest producer of sport auto topping. They don't compete in the other fields.

Q. What is your competing product?

A. "Teal."

Q. Returning now, Mr. Nickowitz, to your customers in the automotive industry, do you have any basis for determining the percentage of the requirements of supported combined fabrics in the automotive industry that are purchased from the du Pont Company?

A. Yes, we do.

Q. How is that information obtained?

A. It is very important in our particular industry that we get as much information on that subject as possible because historically many of the people in this industry have failed because of large inventory losses that they have

had to take from time to time on textiles and rubber, two important commodities that we use in very large measure and two important commodities that fluctuate quite widely.

For example, in my own experience with the du Pont Company, I have seen rubber fluctuate from 60 cents a pound to \$1.80 a pound.

I have seen 1.85 drill, which is a very popular fabric construction, fluctuate from 12 to 14 cents a yard to 80 or 85 cents a yard.

So that we have got to know quite a lot about our requirements, and consequently we set ourselves up to get as much information as we can about our requirements.

We forecast our sales and requirements quarterly for the ensuing twelve months, and these forecasts are based on information that we are able to get from the various purchasing agents and other people whom we contact in the trades we serve.

[fol. 4396] We also get statistical information from the two trade associations that serve our industry, the Rubber Manufacturers Association and Plastic Coating and Film Association.

We get statistics weekly from the Automotive News, which publishes the Ward compilation of automotive production data weekly.

At the time that automobiles are introduced at the beginning of the season usually the top executives of the automotive industry will forecast what they believe will be the production for the year. For example, just in this morning's paper, there is a comment by the president of Packard Motor Company who was addressing the Sales Executive Club, and made the observation that cars are currently being produced at the rate of, I believe he said, seven million cars annually and being sold at the rate of about five and one-half million cars annually.

So that by gathering all of these statistics and information that we are picking up from the purchasing agents, we are able to fairly well determine what percentage of the business we are getting.

Q. Do you have the number of yards of coated and combined fabrics used on each car?

A. I was coming to that. We also are able to get information from the automobile manufacturers as to their con-

sumption of material per car. Of course, we could get that anyway, but when the 1953 models were announced, it became obvious to us that they are using more coated fabrics than had been used the year prior, and we asked our Detroit representative to determine from our customers what the [fol. 4397.] consumption of coated fabrics was on the new models, as compared to the 1952 models, and the consumption, the average consumption of coated fabrics in the General Motors line for 1953 is 2.75 yards per car as against 2.25 yards per car in 1951 and 1952.

Q. What are the statistics as to production that you obtained from the industry papers that you referred to?

A. Well, these statistics show the production of all of the different cars for the preceding week—for example, they will give the production of Ford, the production of Chevrolet, the production of Cadillac, the production of Lincoln and of Mercury, and so forth.

For example, the production of the Big Three, which is Chrysler, Ford and General Motors, has been running about 87½ per cent of the total.

Q. Now, Mr. Nickowitz, I want to take up each of your principal customers in the automotive industry now, and I want you to state what percentage of the requirements of each of these customers is now being supplied by the du Pont Company and has been supplied since you have been director of sales, and also to tell what efforts you have made, if any, to obtain a greater share of the business, and from what other sources these customers buy their requirements, if they have other sources.

Will you state how long you have been director of sales?

A. Since 1944.

Q. Will you please start with the Fisher Body Corporation, or the Fisher Body Division of the General Motors Corporation?

A. We sold—we have been selling Fisher Body Corporation since the end of World War II, about 35 to 45 per cent of their requirements of coated and combined fabrics. [fol. 4398] It varies. Some years we will get a little bit more, and some years we will get a little bit less.

Q. Do you know what percentage of the requirements of this customer came from the du Pont Company during the 1930's while you were sales manager?

A. In the thirties, it was approximately thirty percent.

Q. From what other company did the Fisher Body Division buy coated fabrics?

A. You mean presently?

Q. Yes.

A. They buy coated fabrics from Federaleather, Textileather, United States Rubber Company and Haariz Auto Fabric.

Q. Since you have been doing sales work, Mr. Nickowitz, have you made any effort with the Fisher Body to obtain a greater percentage of its requirements than the percentages you have mentioned?

A. We certainly have.

Q. What have you done along that line?

A. Over the years, I have constantly tried to get more business. After all, that is my job. Just as recently as last February, I recall a visit that I made with J. W. Richardson, our Detroit representative.

I called with him on Fred Walker, who is the purchasing agent of Fisher Body for coated fabrics. We called on Mr. Walker at his office, and Bill Dehm, his assistant, was present.

I pointed out to Mr. Walker that we were only getting then about forty percent of his requirements, and that we would like to get more.

We felt that we were entitled to more because of the leadership that we had displayed over the years in bringing out new and better coated fabrics.

In my experience on this occasion and other occasions, the General Motors people have always expressed a lot of admiration and a lot of appreciation for the leadership we have displayed in that direction.

Perhaps the strongest selling argument that we used, not only in the automotive industry, but in other industries, was just that we prided ourselves in desiring to make the best piece of coated fabric we knew how to make for the purpose, and that our research and development efforts are constantly directed in that direction.

Q. Go ahead and tell us the rest of the conversation with Mr. Walker and Mr. Dehm on this occasion.

Particularly I am interested in all of the arguments you gave them in support of your suggestion that they buy a

greater percentage of their coated and combined fabrics from du Pont.

A. Of course one of the arguments we used was the fact that we had this extensive research program. Another thing was our production facilities.

For example, we are frequently called upon by General Motors to step up deliveries beyond what they anticipated to take care of the failure of others to deliver.

We pointed out to him at the time of our sixth and seventh releases—releases are normally issued by Fisher consecutively and are numbered from one on up to the end of the model, and at the time they placed these releases, they may extend from six to eight, and sometimes ten weeks.

[fol. 4400] When they placed their sixth and seventh release, their production had moved along faster than they anticipated, and I presume some of our competitors were not able to meet their stepped up requirements, so that we had to deliver in a period of eight weeks what we normally would have had to deliver in sixteen weeks.

And on this occasion, Mr. Walker was very voluble in his praise of the very excellent job which we had done in stepping up their deliveries.

We were able to do that because we have the facilities; we have the inventories; we have the business and capital that enables us to render that kind of service.

I also pointed out to him that, when they were in difficulties with their "Teal" fabrics at the time they encountered considerable shrinkage,—I believe it was, in 1949,

Mr. Vern Fisher told us that complaints on teal were running along at the rate of about \$250,000 a year.

Q. You mean losses?

A. That is losses, because they had to replace these products. They placed that problem before us because we were the only company with adequate facilities to solve that problem for them.

Q. You say those were losses on "Teal." You mean they were losses on "Teal" and similar fabrics?

A. On "Teal" type fabrics.

Q. On "Teal" type fabrics?

A. Yes, that they were buying from another source, and I recall distinctly Mr. Fisher—I reminded Mr. Walker of

this fact—Mr. Fisher said he just could not charge back the losses to the competitor involved, because it would embarrass that concern seriously financially.

[fol. 4401] Q. Who was Mr. Fisher?

A. Mr. Vern Fisher is the body engineer, trim and body engineer.

I reminded Mr. Walker of that, and he agreed with all of the arguments, but stated that it was their policy to have at least three sources of supply on coated fabrics, and that we were getting all the business that he could give us, and was actually giving us more than either of the two other sources for coated fabrics.

Q. Was this conversation with Mr. Walker typical of many conversations you had with him in your efforts to sell greater quantities of coated and combined fabrics to the Fisher Body Company?

A. It was.

Q. How often did you call on the Fisher Body Company in an effort to increase your sales in that division?

A. Oh, I went out there half a dozen times a year.

Q. Have you been able to increase your participation in the Fisher Body business as a result of any of your efforts along this line?

A. No, sir.

Q. Does the Fisher Body Company use any other product that is manufactured by the Fabrics Division, other than coated and combined fabrics?

A. I beg your pardon?

Q. Does the Fisher Body Company use any other product that is manufactured and sold by the du Pont Fabrics Division, other than coated and combined fabrics?

A. Yes, they use a weather-stripping cement made from synthetic rubber, which is used to apply sponge weather-stripping to the doors, and trunks, to prevent drafts and rattles.

We have been trying to sell Fisher Body that cement for, oh, a cement for that purpose, since about 1945, when we [fol. 4402] developed our "Fairprene" Cement-5115 which is a neoprene base composition designed to adhere rubber to metal surfaces.

Q. About how much of this weather-stripping cement does Fisher buy each year?

A. They are currently buying at the rate of about a million dollars. Their present model uses more of this than they used some time ago.

Q. Have you ever been able to get any of that business?

A. We have gotten a small amount starting in, I believe it was 1951, but our sales of that type of cement is in the vicinity of about three per cent of Fisher's total purchases.

Q. What efforts are you making to sell larger quantities of this cement to the Fisher Body Division?

A. Well, we are making a special effort to build our cement business, and since the automotive industry represents a large potential market for that type of cement, we have assigned a chemist, a full-time chemist, at our Fairfield plant to develop such a cement, and another full-time chemist to work with the Fisher Body Laboratories, with their semi-works experimental body unit, and with the production lines.

What he does is, he takes the cement specimen to the laboratory at Fisher Body, demonstrates the physical properties of the material. If the evaluation in the laboratory looks sufficiently promising, it is taken into the semi-works unit and tried on as many as fifty or one hundred bodies there. If no bugs develop, then it would be taken into the plant; if bugs do develop in the cement, that is, shortcomings in one regard or another, a matter of drying, a matter of adhesion, a matter of resistance to elevated temperatures, [fol. 4403] he will communicate with the chemist at Fairfield and work will be instituted to take whatever corrective measures seem to be indicated.

Q. Are these two men working full time trying to convince Fisher that they should buy your cement?

A. Yes, sir.

Q. Who supplies Fisher with the bulk of its requirements of this type of cement now?

A. The bulk of Fisher Body's requirements of this type of material is supplied by Armstrong Cork.

Q. And before Armstrong Cork?

A. Minnesota Mining.

Q. Do you run tests on your products and the products of Minnesota Mining and Armstrong Cork?

A. Yes, sir.

Q. What do they show as to the merits of the three groups?

A. We believe that our cement is at least the equal of the competitive ones.

Q. Have you shown those tests to Fisher?

A. Yes, sir.

Q. Have you still been unable to get any substantial part of that business?

A. Yes, sir.

The Court: I think it is time for a recess.

RECESS

[fol. 4404] The Court: Proceed, please.

MAX N. NICKOWITZ, called as a witness on behalf of the Defendants, having been previously duly sworn; resumed the stand and testified further as follows:

Direct Examination (Continued).

By Mr. Neitzert:

Q. Mr. Nickowitz, before the noon recess we were discussing your effort to sell cement to the Fisher Body Company. I think we had concluded except for one question.

What reasons did Fisher buyers give for refusing to buy any substantial quantities of cement from du Pont?

A. That there was no advantage in using our cement. Their present attitude is that none of the cements are entirely satisfactory for their purpose.

They have asked us to make a special effort to solve the problems, just as they have Minnesota Mining and Armstrong. I know all three companies are engaged in a mad rush to solve the difficulties.

Q. Did they find fault with your conclusions that your cement was just as good as your competitors'?

A. No, actually some of the plant managers liked our [fol. 4405] cement better, particularly if they follow the procedure that we outlined for them in the application of the cement. But as I said, they are still not satisfied that the cement is as good as they would like to have it.

Q. Have any of the plant managers gone to the central purchasing organization of the Fisher Body Company with the request that your cement be adopted?

A. I understand that following a visit by our technical sales serviceman, John Mammoth, the Purchasing Department was so advised by the manager of, I believe it was, the Atlanta plant.

Q. Let's now go to another General Motors Division, the Chevrolet Commercial Body Division. Is that division a customer of the Fabrics Division?

A. They are.

Q. What do they buy?

A. They buy heavy duty upholstery material for light weight trucks. We get approximately 30 per cent of their requirements.

We share their requirements on that particular construction with Federaleather, U. S. Rubber, Goodall-Sanford.

Chevrolet Commercial has several sources, approved sources of supply, and currently their requirements are being filled by ourselves, Goodall, and United States Rubber Company.

They also buy another construction from Weymouth Art Leather, but we don't participate in that construction.

Q. For how long a period have you had about 30 per cent of this business?

A. We have had about 30 per cent of this business since the formation—well, we have had about 30 per cent of it since about 1944.

Q. Have you attempted since 1944 to sell a greater percentage of the requirements of the Chevrolet Commercial Body Division of coated fabrics?

A. Yes, we have.

Q. How often do you call on this customer?

A. Well, I usually call on them with our representative about twice a year. They place contracts in June, or sometimes as early as May, for the second half's requirements, and they may start negotiations in October or November for the first half's requirements.

Q. Is that when you call on them?

A. Yes.

Q. Whom do you see when you call on Chevrolet Commercial?

A. Mr. Carlin, the purchasing agent, and his assistant, Mr. Gleason.

Q. Is that L. J. Carlin?

A. Yes, sir; and Dan Gleason.

Q. Do you ever call on the director of purchases?

A. Yes. As a matter of fact, last June, I believe June, 1952, I made a trip to Indianapolis with Mr. Richardson, our sales representative. His headquarters are in Detroit.

We endeavored to get a larger share of the business from Chevrolet Commercial, and were advised by Messrs. Carlin and Gleason that they have a number of approved sources, and that it is their policy to buy the construction which they get from three sources.

In order for us to qualify for that business, our price has to be right because the quality of the other sources is adequate for their purpose.

We pointed out to them that we had done considerable work in improving the quality. We called to their attention the fact that when they were having difficulty with this material bagging and wrinkling on the laying tables that we solved that problem, and we were the first to solve the problem.

They requested that we help our competitors in solving it, [fol. 4407] and we refused to do it because we felt that we wanted more of that business and we didn't see any reason why we should teach them how to correct their difficulties.

Also, when they made the observation that they would like even better quality for their truck upholstery than then prevailed, we told them about a research project that we had undertaken on chlorosulphenated polyethylene plastic, which had unusual resistance to sunlight deterioration, which had an advantage over vinyl compositions in that it was not plasticized or softened with external plasticizers. The reason for that is that these external plasticizers massage out, and you wind up in time with a film that is brittle.

They were very much impressed with our accomplishments in that direction, but unfortunately we weren't able to solve the manufacturing difficulties, and, at least for the time being, that development has been shelved at a cost in excess of \$100,000.00.

But while that work was going on, we also conducted research on plasticizers—

Q. Just let me interrupt a minute. I don't want you to get away from the reason that Chevrolet Commercial gave for not buying from you.

Are you still talking about the conversation about the sales?

A. Yes, I am pointing out the argument we used as to why they should buy more from us. In other words, we are doing a lot of research and development work way beyond what most of the people in the industry do, and we developed a composition involving the use of a polymeric plasticizer which is more tenaciously retained by the film.

-[fol. 4408] We pointed out to Chevrolet Commercial our service tests which showed the advantages of that material. We are constantly contributing that sort of thing.

Another argument we advanced, we were frequently asked by them to step in and fill in where some of their regular sources have fallen down for one reason or another.

Q. You mean falling down on deliveries?

A. On deliveries. Sometimes it was quality, and sometimes it was something else, but they invariably came to us and, except during periods of extraordinary shortages, they know full well we were "Johnny-on-the-spot" and we took care of it.

In spite of all these arguments, Mr. Carlin said they were going to have three sources of supply, and that we got 30 per cent, and that is about as good as we could expect.

Then you asked me whether we had ever gone to Mr. Carlin's boss.

Following that visit in June, I went to Detroit and I asked R. C. Williams, who is our Detroit sales manager, if he would not arrange an appointment with Russell Ford, director of purchases, which we did, and we repeated to him the same story in essence that we had given to Carlin and Gleason, and had given them on many occasions, but to no avail.

They had the three sources, and we got about that percentage.

Actually, in the current contracts we are not going to get even 30 per cent because, on some of their construction, we were asked to bid on, our price was higher and we just do not get the business.

[fol. 4409] The Court: I would like to ask counsels' indulgence just a moment, please.

(After an interruption, the following proceedings were had:)

The Court: It will be necessary for the court to adjourn at 4:15 today, so there will be no recess.

Q. Were these conversations you have described with Chevrolet Commercial agents the only conversations you had ever had with those people?

A. I had had that type of conversation with them many times over the years that I have been going to Indianapolis to call on Chevrolet Commercial.

Q. Will you describe a little more in detail the Chevrolet Commercial buying plan?

A. Well, Chevrolet Commercial asks for bids on the various constructions of vinyl coated upholstery material which they used, and they get bids on the different constructions, and in recent years, they have got bids on two types, one type with the polymeric plasticizer, and another type with the monomeric plasticizer.

They purchased from the three lowest qualified bidders.

Q. When did you first hear of that plan from the Chevrolet people?

A. I first heard about it about—well, a little over ten years ago; I think it was about 1941 on a visit to Indianapolis. I was told that that was the buying procedure that they were pursuing in the purchase of their coated fabrics.

Q. So far as you know, they have used it during the last ten years?

A. So far as I know, they have continued to use that procedure.

[fol. 4410] Q. Now, Mr. Nickowitz, to go to another General Motors division, does GMC Truck and Coach Division buy coated fabrics from du Pont?

A. They do.

Q. What kind?

A. They buy material that is identical in construction with that purchased from us by Chevrolet Commercial, and they buy usually from the same sources that Chevrolet Commercial buys from. Their requirements are substantially under that of Chevrolet Commercial, and since they buy the

same color construction, they usually buy it from the same sources.

Q. What percentage of the requirements of GMC Truck and Coach Division of light truck upholstery has been supplied by du Pont since you have been sales director?

A. Oh, we get approximately 30 per cent.

Q. Have you attempted to sell them a larger percentage of their requirements?

A. Yes, sir.

Q. Do you know what their buying plan is?

A. Their buying plan is the same as Chevrolet Commercial. They get bids—well, usually what they do, they buy from the same people that Chevrolet Commercial buys from, and when we get their contract, it is the same price as Chevrolet Commercial.

Q. They follow Chevrolet Commercial then as to suppliers and price?

A. That is right. They buy during the six month period, and buy from the lowest bidders.

Q. Does GMC Truck and Coach Division buy any types of coated fabrics other than the kind they use for the light truck upholstery?

A. They do. They buy a heavy duty construction, and have been buying that since about 1946. Following the war, there was a shortage of leather and, of course, there was also a shortage of textiles, and they came to us and asked us if we would supply them with our heavy duty upholstery. We [fol. 4411] just were not able to take care of that need, and their then needs for the lighter weight construction, and U. S. Rubber, who apparently had available sources, introduced a construction to them at that time, and they have had that business ever since, which, of course, is relatively small volume as compared to the light weight, and when we have gone to them for that business, they point out, "Well, you fellows did not take care of us when we needed relief on that, and this is a small volume, and we just are not going to divide this up."

Q. Have you actively solicited the business?

A. We certainly have.

Q. Prior to the time that they started buying this coated fabric from United States Rubber Company, what type of fabric did they use for their heavy-duty truck upholstery?

A. They used leather.

Q. Does this division of General Motors use any other type of fabric?

A. Yes, the General Motors Truck and Coach Division uses coated fabrics in their interurban buses.

Q. For what purpose?

A. They supply buses on specification from the fleet owners as to whether the buses shall be upholstered in soft goods or the coated fabric on which the General Motors Truck and Coach have standardized.

In other words, if you were a fleet owner and you went to General Motors Truck and Coach to buy a fleet of coaches, one coach or several coaches, they would quote you on these coaches, upholstered either in soft goods—that is, fabrics—or Koroseal. Koroseal is the Goodrich trade name for their vinyl coated upholstery fabric.

[fol. 4412] Goodrich Company, like United States Rubber, at the time that the leather shortage developed, being a prime source of vinyl resins, had adequate resin supplies, and supplied General Motors Truck and Coach with Koroseal to take care of their shortage of leather.

Now, when I say they supplied General Motors Truck and Coach with Koroseal, that is not strictly correct. General Motors Truck and Coach don't use fabrics themselves. They contract with seating manufacturers who manufacture the seats for use in these buses; people like American Seating, Detroit Sunshade, International Seating, and they, in turn, buy the coated fabrics with which these seats are upholstered.

The Court: May I have your indulgence again for a moment?

(A short recess was here taken.)

The Court: You may proceed.

By Mr. Neitzert:

Q. What did General Motors Truck and Coach have to do with the source of coated fabrics that are used by the seating manufacturing companies in manufacturing seats for the buses and motor coaches that this division of General Motors assembles?

A. They specify the type of material to be used.

Q. Have you been able to sell any of du Pont's coated fabrics to the seating manufacturers for this purpose?

A. Very infrequently.

Q. What have you done along that line in your efforts to sell?

A. Well, we have talked with Mr. R. E. Welch, the sales [fol. 4413] manager of the Coach Division, on numerous occasions, and his suggestion was that we get the fleet owners to specify our material.

Well, you can get it that way, but you can see where that is a very long, arduous and tedious task. Then secondly, the seat owner is reluctant to do it, because he then accepts the responsibility for any failure that might occur because the bus is offered to him with Koroseal as standard equipment, and if he wants any other upholstery material in there, he has got to specify it, and there is always an out for the seat manufacturer or the bus manufacturer, who can say, "Well, we gave you this. You wanted it, and you have got to take the responsibility for it."

However, we have continued our efforts all along this line; brought the various improvements to the attention of Mr. Welch and the others in his organization. I know John Richardson brought it to the attention of Mr. Kyes, who was formerly general manager, and vice president, and our material has now been made an alternate standard material for buses of this type, so that in the future we expect to get a fair share of that business, a greater share of that business than we have had in the recent past.

Q. How long has it taken you to get your material put on the standard list?

A. Well, we have been at it now for seven years.

Q. During any of that period of seven years, have the G.M. Truck & Coach people ever indicated to you that they thought that your "Fabrilit" was inferior to Koroseal in quality?

A. No, sir, they accepted our material as satisfactory, and I believe now our tests indicate that we have got a better product.

[fol. 4414] Q. What reasons did they give heretofore for refusing to put "Fabrilit" on the list of standard materials?

A. They brought to our attention the fact that we didn't

take care of that need when it first developed. Koroseal did, and therefore they were entitled to a continuation of that business.

We could get a portion of it if we got the bus fleet owner to specify our material.

Mr. Neitzert: Your Honor, I offer in evidence Exhibit DP-240, which is a letter from Mr. J. R. Owens to Mr. A. L. Brown, dated July 8, 1947.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 240.)

By Mr. Neitzert:

Q. What position did Mr. Brown hold with the du Pont Company in 1947, Mr. Nickowitz?

A. Mr. Brown was my assistant.

Q. Assistant director of sales?

A. Assistant to the director of sales.

Q. You are the top sales officer in the division and Mr. Brown is number two?

A. That is correct.

Q. Who was Mr. Owens at that time?

A. Mr. Owens was manager of our industrial products sales.

Q. I will read the letter:

"When I recently called on American Seating Company they advised that the——"

It is supposed to be "they," I suppose, though it says "the."

"—we're still using Koroseal——"

[fol. 4415] That is a Goodrich product?

A. Correct.

Q. (Reading):

"—Koroseal for bus seat upholstery on instructions from General Motors Truck. Further, they were not interested in evaluating 'Cavalon' 7561 unless requested by their customer."

Was "Cavalon" one of du Pont's competing products?

A. Yes, it was.

Q. (Reading):

"Mr. Hugh Bersie of American Seating is the GM Truck contact man and although G. M. Truck had given him a sample of No. 7561, he was apparently not asked to consider our material.

"Can you give me the status of our sales efforts with G. M. Truck on both 'Cavalon' 7561 and 'Fabrilit' 6036?"

Those numbers indicate a particular weight or—

A. Quality. That is a quality designation.

"Mr. Neitzert: I offer in evidence DP No. 241, letted dated December 26, 1947, to Mr. T. A. Nalle, from A. L. Brown.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 241.)

By Mr. Neitzert:

Q. What position did Mr. T. A. Nalle hold with the du Pont Company in December, 1947?

A. He was our Detroit representative.

[fol. 4416] Q. This letter is as follows:

"In a recent conversation with Stewart Hayes—"

Who was Stewart Hayes?

A. Stewart Hayes was the agent for our products and leather in the transportation industry. He specializes primarily in railroad and interurban bus upholstery sales.

Q. Is he an employee or independent salesman?

A. An independent sales agent.

Q. (Reading):

"In a recent conversation with Stewart Hayes, who represents us in railway and the street bus field, he gave me the distinct impression that General Motors Truck is continuing to promote Koroseal for bus upholstery where the customer is interested in a substitute for natural leather. Mr. Hayes seemed to feel that it is their practice to submit a sample of leather and of Koroseal material with a price differential in favor of Koroseal. I may not have the facts straight but I am passing it

along to you for what it is worth with the hope that G. M. Truck and Coach may be willing to consider our 7150 material or 'Fabrilit' 6036 for this."

Did other instances such as this come to your attention in the last seven years?

A. Many others.

I talked with the transportation seating people at Troy Sunshade, in Troy, Ohio, very recently. We had one of our representatives go to the Public Service of New Jersey, who are getting a fleet of buses, and we had difficulty in getting them to specify "Fabrilit", because Koroseal at that time was the standard upholstery material in the coated fabric class on General Motors Truck and Coach coaches.

[fol. 4417] Q. Now, Mr. Nickowitz, let's go to another General Motors Division, the A. C. Spark Plug Company.

Does the A. C. Spark Plug Company use coated fabrics of the kind manufactured by the fabrics division?

A. They do.

Q. What type of fabrics are those?

A. They use the equivalent of about \$2,000,000 worth of coated fabrics annually in the manufacture of fuel pumps. They have a multiple ply diaphragm that is made from an oil coated fabric, which they produce in their plant at Flint, Michigan, and that is used in the fuel pump diaphragm to pump the fuel to the motor.

Q. Have you attempted to sell your product to the A. C. Spark Plug Company for use for this purpose?

A. We have. We have attempted for many years to convince A. C. Spark Plug that they should buy their diaphragm material from us.

Starting back in 1939 we submitted a material which we prepared for that purpose, coated with one of the early synthetic rubbers manufactured by the Thiokol Corporation.

The advantage of that material was that it was resistant to hydrocarbon solvents. In tests conducted in our own laboratory on fuel pumps, we were convinced that we had a better product for the purpose than was being used by A. C. in the assembly of its fuel pump.

The thing that convinced us was the fact that so many people had difficulty in starting their cars in the winter-time. You probably recall in your own experience difficulty

of that sort. The reason for it is that these oil coated fabrics freeze at relatively low temperatures.

Q. Those are the kind that were used by A. C. Spark Plug?

A. Correct, and we found that if a flexible or rubber-like [fol. 4418] material was used, which had a greater range of flexibility, greater temperature range of flexibility, that that difficulty would be overcome.

Then in 1941 we had still an improved material which we produced from neoprene. Neoprene had many advantages over Thiokol. The most important advantage was the fact that it had a much wider flexibility range than Thiokol.

Thiokol was better than oil, but neoprene was even better than Thiokol. We conducted many tests. We set up fuel pumps, A. C. fuel pumps in our own laboratory and ran them for thousands of hours constantly with various types of commercial automobile fuels, and found that this was really an outstanding material.

It is true that it was more expensive than the oil coated material. We finally succeeded in selling that product to A. C.'s largest competitor, Chefford-Master Company of Fairfield, Illinois.

They competed with A. C. in the replacement field, and they sold two types of fuel pump diaphragms. One was an oil-coated diaphragm manufactured by the Brunsene Company which was very similar to what A. C. had, and another type which we manufactured for them from Fairprene, which they called Airtex. They sold that at a premium, substantial premium, over the A. C. replacement diaphragm material. They were quite successful with it.

Later we interested Carter Carburetor, who are currently supplying Plymouth, Chrysler, and I believe Overland. I am not certain about that, but they too buy neoprene coated diaphragm material from us.

[fol. 4419] We also sell Electric Auto-Lite, which are using our neoprene in their fuel pump assembly.

Even as late as, I would say August, or late summer of 1951, I made a special trip to the A. C. plant with our division manager, our technical serviceman, C. D. Locke, John Richardson, and I am not sure whether our C. R. Williams was with us or not.

We had set up a visit with the plant manager, and the

heads of the laboratory, and the engineering groups, and brought with us our tests on the various fuel pump constructions that we were selling.

For example, one of the constructions we were selling was on a nylon base. We sold it to the Holly Carburetor Company, who incidentally have a license to manufacture A. C. fuel pumps for Ford requirements, but they are required to use A. C. material in the assembly of that pump. Despite that, they use our Fairprene construction in aircraft fuel pumps which they manufacture.

But getting back to this A. C. visit, we were told at that time that A. C. would not buy its requirements of fuel pump material from us. They stated that they were going to continue to manufacture their own requirements and that, at best, even though our product is as good as we claim it to be, we would probably only share in a small portion of their diaphragm material business, if at all. Our success to date has been zero.

Q. Have you got a little business with them in connection with some of the Chevrolet work?

A. Yes, we have. We were called upon by the Chevrolet Motor Company—I don't remember exactly now whether that was the latter part of 1950 or early in 1951—to help them out with a serious problem that they had encountered [fol. 4420] in the design of their Power-Glide. That is the automatic drive used on Chevrolet cars.

They had started to use that drive, using the A.C. diaphragm in the assembly, and for some reason or other, they had difficulty. I am not too sure that I know what the cause of the difficulty was, but I presume it was probably caused by the influence of temperature changes.

However, after we had worked with them for a while and submitted a number of potential Fairprene constructions we had engineered for that purpose, they finally adopted one of our materials, and said it did the job very satisfactorily, that in the future we would receive orders for this material from A.C., who cut their diaphragms.

Q. From materials selected and specified by Chevrolet?

A. Yes.

Q. What part of the requirements of the competitors of A. C. Spark Plug is supplied by du Pont?

A. I don't believe I understand your question.

Q. What percentage of the requirements of diaphragm material of A. C. Spark Plug's competitors is supplied by your division?

A. We supply all of Carter; all of Electric Auto-Lite.

We did supply all of Shefford-Master. We do not now. They have a competitive source for the lower priced diaphragms in their line.

There are a few, or a number of other small fuel pump manufacturers like Perfection Products and High-Grade. We have either all or most of their requirements. They are in the replacement field, however.

Q. Now, what about another General Motors division, the Electro-Motive Division. Do they use coated fabrics?

A. Electro-Motive Division uses some coated fabrics. [fol. 4421] They use synthetic rubber coated material for batten strips. That is a sort of gasketing in the motor platform.

We have attempted to get that business over a period of years, unsuccessfully. We do sell Electro-Motive's leading competitor, the American Locomotive Company, all of their requirements for that type of material.

Q. What about any other fabric that Electro-Motive uses?

A. They also use other rubber coated fabrics for insulating material, our men report, to an extent of about 75 to 100 thousand dollars annually, but we do not get any of that business. We supply material of that type to others in the industry, but we have never been successful in getting any business from Electro-Motive.

Q. Have you solicited the business?

A. We have.

Q. What reasons do they give for giving you none of their business?

A. Well, they say they are perfectly satisfied with their present sources, and they see no advantage in using ours.

Q. Did the Cadillac Motor Company use vinyl resin coated fabrics?

A. Cadillac Motor Company uses about 75, perhaps 80 thousand dollars worth of vinyl coated fabrics annually for seat covers. That business comes up periodically, and we have just never had it.

Q. Have you ever been given an opportunity to quote on that business?

A. I don't know of any instance where we have had an opportunity to quote.

Q. Does General Motors Overseas Division now use or has it used coated fabrics?

A. Yes, they have. They used to use quite a lot; during the war we used to supply almost all of their requirements. I guess we supplied all of their requirements for a while for South Africa.

[fol. 4422] During the war, they ran into some leather shortages, and started to buy their leather in England, and bought part of their coated fabrics over there during that period, and during the period after the war. Then, subsequent to that, they have been buying their requirements in South Africa, and we just don't get any of that business now.

Q. During the period when the Overseas Division was buying its coated fabrics in this country, about what percentage of the business did the Fabrics Division have?

A. I believe that varied. I think we got about half of it, as near as I can remember.

Q. Does the Delco Appliance Division use coated fabrics?

A. The Delco Appliance Division uses synthetic rubber-coated materials and sheet stocks, but we don't get any of that business.

Q. Do you know about how much that business runs per year?

A. Oh, it is around \$75,000.00. We are making a special effort to get it now. I don't know how successful we are going to be.

Q. Have you tried in the past to get the business?

A. Yes, we are putting a special drive on now for our synthetic rubber business, but we just haven't been successful at that location.

Q. What is the situation at the Packard Electric Division of General Motors?

A. Packard Electric buy about half of their requirements of Teflon coated glass fabric from us. That material is used in insulating ignition wire for aircraft work. We have been getting about half of that business for about three years, and right now they are going at a much more substantial rate, and we expect the consumption of that material will be greater than it has been, but we get only half the business,

[fol. 4423] and Continental Diamond Fiber get the other half. We try to get a larger share of it, but Packard's policy on that is to have two sources of supply. Actually they have only two approved sources of supply for that material currently. Whether other sources will develop or not, I don't know. Some of Packard's competitors use an unsupported "Teflon" that we don't make. It is a cheaper product, but they don't use any coated glass, and whether they will have to or not, I don't know.

Q. Does Packard use a vinyl sheet stock in their production?

A. Packard used a vinyl tape for insulating purposes. Their tape consumption runs about the same. I don't know whether I mentioned what their "Teflon" consumption was up to this point. It runs about \$150,000.00 annually, and their consumption of this vinyl tape runs at about the same rate. We have asked for an opportunity to work with them on that, but they are satisfied with their current sources of supply, they tell us, and we have never been invited to —

Q. For how long a period have you attempted to get some of the vinyl tape business at the Packard Division?

A. I would say for about ten years, at least; probably a little longer than that. I recall that during the war when we were supplying neoprene tape for similar applications to others, we tried to interest them in that construction, but we were unsuccessful.

Q. Mr. Nickowitz, do you have sales representatives and technical men calling regularly on all of these General Motors Divisions?

A. Yes, sir.

Q. How many men, located with the Fabrics Division, are ordinarily employed in soliciting the automotive trade?

[fol. 4424] A. We have 19 industrial salesmen, and then we have a group of retail salesmen who don't call on that trade.

Q. Do you also have special technical men that are sent to a particular job like this job of trying to get the cement business at Fisher?

A. Yes, and in addition to that we have two technical sales service men who spend most of their time in the field solving problems of that type. The servicing that we are trying to do, that I described with A. C., and the sort of thing

that we tried to do at Packard Electric are further examples. Actually, in the case of Packard Electric we have an electrical engineer who is assigned to call on them and on other electrical accounts where technical knowledge of electrical engineering would be advantageous in servicing the account.

Q. You mentioned the Ford Motor Company as one of your customers. Is Ford Motor Company an important customer of the du Pont Fabrics Division?

A. They are.

Q. What are your current sales to the Ford Motor Company?

A. Well, currently our sales at Ford Motor Company are running approximately at a rate of about three-quarters of a million dollars a year.

Q. Do you know what percentage of Ford's total requirements, coated and combined fabrics, is purchased from the Fabrics Division?

A. Of the fabrics that we supply—you see, Ford Motor Company manufacture most of their own requirements. They have been doing that since 1920 on pyroxylin and since the early 1930's on rubber. So when they come into the industry for requirements, it is either to supplement their own manufacture to take advantage of bulges or their own shortcomings, or to supply a need which they are unable to supply themselves, and currently we are supplying selected constructions exclusively for—that is, we are taking care of [fol. 4425] 100 per cent of their needs of these particular patterns in our elastic "Fabrilit" for Lincoln and Mercury, and I would say about 35 to 40 per cent on Ford.

Q. Over the years what coated fabric manufacturer has been Ford's principal source of supply, outside of its own factory?

A. I believe we have.

Q. Have you attempted in selling Ford Motor Company, to induce them to buy a greater percentage of their requirements of coated fabrics from du Pont?

A. Yes, sir.

Q. Has there been any difference in your method of soliciting this business of Ford than General Motors?

A. I couldn't say.

Q. What success have you had with Ford?

A. Well, our success varies. Of course, the opportunity

isn't as great there, because of their own manufacturing facilities, but other than that, we have been successful.

Q. What recently has Ford told you about that?

A. Well, for example, on a material that we are currently supplying, we have been given an opportunity to develop special constructions for them for their new models, and we have been advised that we should reserve capacity for them because they expect to take more of that type of material from us in 1954 than they are taking in 1953, because they expect to use more. They are planning to make more convertibles and hard tops where this construction is used quite extensively.

Q. Mr. Nickowitz, since you have been director of sales, has Ford ever offered you any business that you declined to accept?

A. Yes, I would say that we probably have rejected more than we have accepted.

[fol. 4426] Q. Why is that?

A. Well, you see, when these large motor companies design their lines for the ensuing year, they pick certain patterns, certain colors, certain constructions which are unique for them. Their stylists want to give flair to their creative ability, and different stylists have different ideas, and if you don't equip with the proper engraved rolls for embossing or for printing the surface, you just cannot get that business.

In the sport-top construction, not all companies use the same width of materials. They have patterns that cut advantageously from 46 inch widths. Fisher Body has patterns that cut advantageously from 56 inch widths.

Well, now, we don't provide fabric ahead for somebody that doesn't forecast they are going to require these fabrics, because, as you recall, I mentioned this morning that the purchase of fabrics involves a terrific gamble.

I have seen us take tremendous losses due to these fabric inventories, so that we have to play that facet of our business very conservatively, and we just don't buy these fabrics.

Well, now, if Mr. Ford or Mr. Chrysler, or Mr. Joe Doakes, comes in with an emergency requirement for a construction that is not standard, he just cannot get it from us. Well, take for example, Ford's requirements for double tex-

ture. I would guess for that line we were called in on two or three occasions in the past three or four years when we were offered business.

I recall, oh, I guess it was in January, Ford wanted to buy some "Orlon Teal". We couldn't provide his requirements for "Orlon Teal" because we hadn't planned "Orlon Teal" [fol. 4427] production, and "Orlon Teal" sells for \$6.00 or better a yard. We just don't carry any extra yards of that around.

Q. What percentage of Studebaker's requirements of coated fabrics are bought from you?

A. Well, last year we supplied Studebaker 100 percent of their "Orlon Teal" requirements, and we expect to supply approximately 100 percent this year.

Q. You also sell them substantial quantities of "Fabrilit"?

A. Occasionally. We haven't sold them any substantial quantities recently.

Q. What about the Mack Truck Company?

A. We sell Mack Truck, I believe, 100 percent of their requirements.

Q. What about the Checker Cab Company?

A. I think we sell Checker Cab 100 percent of their requirements.

Q. What about the Cushman Body Company?

A. I think the same is true there.

Q. What about the International Harvester Company?

A. Well, we don't sell them all of their requirements. I think we sell them all their requirements for their Bridgeport Works, which is fairly adjacent to our Fairfield plant.

Q. What about the Electric Auto Lite and Carter Carburetor Companies?

A. We sell them 100 percent of their requirements for diaphragm materials.

Q. And the Detroit Gasket & Manufacturing Company?

A. We sell them substantially all of their requirements. I am not sure that we sell them 100 percent.

Q. Wayne Body Works?

A. We sell them all of their requirements.

Q. For whom does the Wayne Body Works manufacture bodies?

A. They make mostly school buses.

[fol. 4428] Q. They don't supply any of the automobile manufacturers?

A. No.

Q. What business is the Fabricon Products Company engaged in?

A. They manufacture arm rests for the automotive industry and we supply them about forty percent of their requirements.

Q. In what business is the Trico Products Company engaged?

A. They manufacture windshield wipers, and we supply them all of their coated fabrics.

Q. They are the biggest manufacturers of windshield wipers, are they not?

A. The largest manufacturers of windshield wipers.

Q. Is Fabricon Company the largest manufacturer of arm rests?

A. They are one of the largest. I believe that Fisher-Norwalk and Fabricon are approximately equal in size. We supply both, incidentally.

Q. 100 percent of both?

A. I don't believe we supply them 100 percent.

Q. That is right. You testified you did not.

A. I think it is about forty percent.

Q. Do you sell coated fabrics to the Chrysler Corporation?

A. Occasionally. We are not selling Chrysler very much now.

Q. Have you attempted to sell coated fabrics to this manufacturer since you became sales manager, about 1933?

A. Yes, sir.

Q. Do your sales representatives call on Chrysler regularly and solicit that business?

A. He still does.

Q. What reasons do the Chrysler people give for placing their business largely elsewhere?

[fol. 4429] A. Let me go back a ways to answer that. We used to sell Chrysler a lot of "Teal" and a lot of "Everbright" top material. When we noticed their sales beginning to diminish in the '30's, I recall several visits out there with James Tomlinson, who was our Detroit representative, and who was responsible for the Chrysler account, and

J. Henry Smith, who was in charge of automotive sales of coated fabrics; Fabrics Division of the F. & F. Department in Detroit.

As usual, we would take our quality story to Chrysler, just as we had to many of the other automobile manufacturers. I recall one conversation with Harold Hunter—

Q. Who was he?

A. He was the body engineer—he had a position similar to Vern Fisher's in Fisher Body—and Oliver Clark, who was, I believe, at that time, the chief engineer.

The essence of what they said to us after listening to our quality story and our demonstration of the superiority of our material, our ability to render service—the essence of what they said was, “Well, you fellows, you are a major source of supply for General Motors”—and at that time we were, too, for Ford—“we would prefer to deal with somebody who was going to be exclusively our major source of supply because we think they would be more apt to take care of us than you will”.

We pointed out that we were the biggest people in the business. We had good products. They had never called upon us to render service that we weren't equal to. Actually, at that time, the requirements of the industry had shrunk considerably because, you will recall, we had been geared [fol. 4430] up to make 25,000, 30,000 yards of 64 inch top material a day at our Fairfield plant in the days when they used material that was 64 and 66 inches wide, and used two to two and a half yards to a car.

Then in those days, you probably recall that the auto top kept shrinking. The 64 inch got down to 40, and 42 inch, and the two and a half yard length got down to a yard. It looked like a postage stamp sticking up on top there.

So that we had a tremendous capacity, and yet we weren't able to make an impression. That has been our experience there. We just haven't been able to become an important source since then to Chrysler.

Q. Has that been Chrysler's attitude until very recently?

A. Yes. Of course there is nothing that succeeds in this selling game I guess like persistence. Mr. Richardson tells me now that he has pretty good assurance that if we gear up to give Chrysler the patterns that they want, and our

prices are right, that we ought to get a fair share of their business next year.

Q. Is this assurance from Chrysler?

A. Yes. Actually, we have had more opportunities to quote Chrysler in recent months than we have had in a considerable period. Unfortunately, we are cramped this year by the problem that I outlined a moment ago when I said we had to gear up styling. We do not want to get the equipment and gear up at the tail end of a model. It takes a minimum of sixteen weeks to get a roll engraved, and my recent experience has been that, despite the fact that we have got a sixteen week promise, it turns out to be twenty or twenty-four weeks before you get it.

[fol. 4431] So that I am hopeful, if we gear up as we expect to in 1954, we will participate to a great extent.

Q. Mr. Nickowitz, how about some of these so called independent automobile manufacturers, other than Studebaker, which you say manufacture about 12 or 15 per cent of the cars of the country—I refer more particularly to Nash, Hudson, Packard and Kaiser-Frazer. Do you sell coated fabrics to those people?

A. Well, their attitude is very much like that of Chrysler. While some of them answer the same way, some are more blunt about it.

I recall a visit quite a long time ago, and I cannot even recall the man's name, at Hupmobile. We sold Hupmobile some material back in the early days of our entry into the coated fabrics business, and this purchasing agent said that he just would not buy from the main source of supply of his competitors.

Q. Mr. Nickowitz, do you know why these smaller companies are, other things being equal, reluctant to buy from the principal source of supply of Ford and General Motors?

A. Well, I think that their problem, of course, is a lot simpler. Their needs are not so great in terms of yardage, so that they have a lot more people that they can depend on to take care of their needs. After all, there are not too many people in this industry who could take care of Ford's needs or General Motors' needs, and keep a continuity of flow.

One of the worst things in the world you can do in the automotive industry is to cause them to hold up the production line. We frequently have a situation where

something goes berserk, and we have to ship stuff out by air-express where the cost of transportation is several times what the value of the material is, and we do that because we have known the industry to appreciate it.

There is no industry that we serve that is quite as demanding as the automotive industry on service.

In these bigger operations, they just cannot take a chance. They have got to have sources of supply that are reliable; that can turn out the volume when they need it. With the smaller car manufacturers there are plenty of people in the industry who can take care of their needs because the volume is not so great.

Q. Well, you have explained why General Motors and Ford buy from du Pont, but I don't believe you quite answered my question why the smaller companies prefer to find their sources rather than to buy from the suppliers that supply General Motors and Ford?

A. Well, we have this, of course, that they take the same attitude that Chrysler did and then we have others who are not quite as—they are not quite as quality conscious, and if they can save a few cents a yard on something that perhaps looks just as good, they are going to do it, and they can get all the material they need from the other fellow.

Now, it may sound like we are bragging a little bit, but we try to make a material just as good as we know how to make it because there is not any coated fabric that I know of that is too good for its purpose.

Q. While we are on that subject, what sales methods did you use in soliciting coated fabric business and combined fabric business of the automotive trade?

A. We use exactly the same procedure I have described [fol. 4433] at General Motors, at Ford, or at any of our other customers—quality, service, and price.

Q. Do the research facilities and the technical services that are at your command in the du Pont Company play an important part in sales?

A. They are very important because, as I am emphasizing here, one of our main arguments is quality. We try to set up a standard of quality that is as good as we know how to accomplish, and once we set it up, we set up controls to insure uniformity of quality.

I believe that I can say in all modesty that du Pont has

contributed more to the coated textile industry—to advancing the coated textile industry—than anybody in the business.

Q. Has that been of assistance to you in selling to General Motors?

A. It certainly has.

Q. Over the last thirty years, or for whatever period you have been familiar with the figure, what percent of General Motors requirements of coated and combined fabrics have been supplied by the du Pont Company?

A. Over the last thirty years?

Q. Within a period you may be familiar with the situation.

A. Well, I am more familiar, of course, with the period from 1930. We supplied about thirty percent of their requirements from 1930 to 1940.

From 1944 to the present, I would say it is approximately forty percent of their requirements.

Now, we are in and out. We have had a little bit more. Back beyond that period, it is my understanding that we had a larger percentage.

[fol. 4434] Q. Have the buyers for the various divisions of the General Motors Corporation that you supply with coated fabrics ever informed you why they buy from du Pont?

A. Yes, they have.

Q. Unless the Government wants you to, I don't want you to give us too many conversations of that kind; just state in general what reasons General Motors buyers give for doing business with du Pont?

A. Well, primarily they do business with us because they know our quality and service and dependability are superb. They have had that experience with us. They know that when they have a problem, a difficult problem to lick, that we can usually come through with the results.

Q. You mean that is when a technical problem is submitted to your research?

A. That is correct.

Take, for example, the experience we have had with the "Teal". When they called us in on that problem, they were having serious difficulties with it.

Q. This was not your product?

A. No. I am sorry, I am confusing you by saying "Teal". "Teal" is our trade name for combined goods.

I am talking about the combined goods that they were buying. And we called in our Dyestuffs Department and worked with them in designing a formulation that was very tricky, but produced excellent results from the standpoint of fading.

The next problem that Fisher Body ran into was a matter of shrinkage. I referred to that earlier in my testimony [fol. 4435] when I said that Mr. Vern Fisher told us that the shrinkage on combined goods was costing them about \$250,000.00 a year. Mr. Vern Fisher and Fred Walker both asked me if I would not get our division to start a research program on "Teal".

Very shortly thereafter we came up with an improved "Teal" that set the quality of shrinkage considerably below anything that Fisher had ever had before.

They probably brought, I would say, at least a dozen or more problems of that sort to us every year, problems of construction, design, cement, weather stripping. On the cement we were not even getting any business to speak of; three per cent of their business was certainly little enough, and I expect that we are going to solve this problem and give them what they want, and if we do, why, I expect we are going to get a share of that business.

Q. Do other divisions do the same thing?

A. Sir?

Q. Do other divisions and customers present problems to the du Pont research and technical staff?

A. Yes, sir.

Q. Can you give us some other examples of that?

A. I mentioned the diaphragm material that we supplied to Delco-Remy. They found that that material, although it was doing an acceptable job, was not adequate for some of their more advanced ideas in motor design, and they had to have greater heat stability. That problem was put before us, and we solved it for them.

We had a problem that was given to us by them a little over a year ago to develop a nylon dyed top material for use on an experimental car—you probably have heard of the LeSabre—in which was incorporated many of the advanced ideas of automotive engineering, and they wanted

[fols. 4436-4437] a top that would be very flexible and attractive and easily compacted. We developed such a top for them for the LeSabre. That car has been on display.

ADJOURNMENT

[fol. 4438] The Court: Proceed, please.

MAX N. NICKOWITZ, a witness on behalf of the Defendants, having been previously duly sworn, resumed the stand and testified further as follows:

Direct Examination (Continued).

By Mr. Neitzert:

Q. At the time of the adjournment, Mr. Nickowitz, you were giving us examples of the technical and research problems that had been submitted by customers of the Fabrics Division to your technical and research staffs. I am not going to ask you to give any more examples, because I think your testimony discloses—your prior testimony discloses several instances in addition to the ones you gave.

Will you state, normally, how many technical and research problems, requiring a substantial amount of time and service from your Technical Department are submitted each year by your coated fabric customers in the automotive industry?

A. Oh, I will say 45 or 50, or probably even more than that.

Q. How many chemist technicians do you have spending full time on work presented to you, and on other research problems?

A. Well, at our Newburgh laboratory, where the research and products development work is done for the Fabrics Division, we have about 45 chemists and technicians.

At Fairfield where the work is done on synthetic rubber composition, we have fifteen. In addition to those, we have [fol. 4439] two full time men at the Central Research Laboratory in Wilmington.

Q. Do you also receive help on technical and research

problems from other departments of the du Pont Company?

A. Oh, an infinite amount of help. That is one of our big advantages.

Q. Do any of your competitors have research and technical staffs comparable to yours?

A. I am sure that none of our competitors in the coated textile industry which cater to the automotive industry have near the facilities that we have.

Q. Were you at one time familiar with the research facilities of your competitors on coated fabrics?

A. Yes, sir.

Q. When was that?

A. Oh, when I was in the Research Department. At one time I was in charge of research and control at Fairfield.

Q. How did the du Pont research and technical plant compare to your fabric competitors at that time?

Mr. Harsha: May we have the date of this comparison?

By Mr. Neitzert:

Q. About what date now?

A. Well, in 1940.

Q. All right.

A. I would say that our research and technical facilities were greater than those of our leading three or four competitors—five competitors, who were manufacturing coated fabrics for the automotive industry.

Q. You mean the five leading ones combined?

A. Yes.

Q. You have referred in your testimony to contributions that du Pont has made in the way of new and improved [fol. 4440] fabrics in general terms. Will you please give us some examples of the fabrics which are now or have been widely used in the automotive industry that were developed by du Pont?

And in that connection, will you state what effect the development of these new fabrics has had upon your sales to the automotive industry?

A. Well, to go back to the early development of pyroxylin coated fabrics, shortly after the du Pont Company acquired the Newburgh plant in 1913, we developed the first really satisfactory pyroxylin coated material and there was a tre-

mendous bulge in our sales of materials of that type, until competition caught up with us.

Following that, in 1918, when we developed our "Pontop" double texture top material, that was the first double texture rubberized top material that was found to be suited for outdoor open cars which were in popular use at that time. There again we had a wide bulge in our business.

Carried on with that development was the development of a single texture Pontop top material as distinguished from the old Ford rubber. The advantage of that material was that it had an extremely durable coating composition, and there again we had a bulge in our business until the depression or recession in 1920 came along, and competition used that period to catch up with the development work.

Following that, in 1925, we developed a rubberized glazed finish double texture top material for closed cars. Prior to that, the pyroxylin coated materials were used for that purpose, and were found inadequate because they leaked too quickly, and because of the fact that they became tacky due to the exudation of the plasticizer when the material was exposed to direct sunlight.

[fol. 4441] We saw an opportunity there to bring the quality of the top material more closely in harmony with the improvements that had been made in the body finishes through the utilization of "Duco", and introducing, as I said, this "Glazed Pontop", again resulted in a bulge in our sales to the automotive industry. That was followed by a still further and more revolutionary change. That began in the latter part of 1926, with the introduction of our "Everbright" top material. The advantage of the "Everbright" top material was that it had all the virtues of the "Glazed Pontop", but had greater lustre and durability. The lustre of that finish was much more permanent, and that resulted in a tremendous bulge in our business. Actually, we at one time had 75 per cent of all the closed car top material business in the country.

In 1927 we developed another improvement in a top material which was referred to as "Sportop". That product was a double texture construction wherein the two fabrics were combined with a vulcanizing rubber cement, and the surface coated with a special nitrocellulose or

pyroxylin composition, embossed and printed to look like fabric.

Now, the coating of this construction was a very light weight coating. The production and permanence of the weather-resistance or water-proofing properties, we obtained from the combining composition. That resulted in a bulge in our business in 1927 and 1928, and extended into 1929.

[fol. 4442] That particular construction did not remain as popular as long as some of our other construction.

Following that, in 1938—in 1937, the latter part of 1937, we developed a heavy-duty rubberized upholstery material.

Prior to that, we had been selling for most of the heavy-duty applications a heavy "Fabrikoid" construction. The difficulty with that material was that it did not withstand long continued flexing particularly at low temperatures, such as you would run into in a truck.

In order to meet that shortcoming we developed a product which we called "Cavalon."

"Cavalon" was a rubberized upholstery material compounded with ground leather, and finished with a very thin coating of shellac, which was subsequently brominated.

We gave the product a case-hardened surface. The advantage of that particular construction over other types of rubber material that appeared on the market was that we didn't have to put a colored lacquer on the surface such as, for example, like Textileather and Federaleather, and L. C. Chase.

They got their color and setting quality through the application of a surface coating of pyroxylin enamel, and that surface coating carried all of the disadvantages that you had in the pyroxylin film itself, whereas in our coating through this bromination process we produced a hard, horny surface on the rubber which was leather-like in "hand" and in resistance to abrasion.

Q. Did that result also in a bulge in your business?

[fol. 4443] A. That resulted in a very substantial bulge in our business, particularly from the trucking industry, and also in the theater seating and public seating trades where the properties that we had incorporated in "Cavalon" were very much sought after.

Q: I am not going to ask you to give any more examples of the new fabrics that du Pont Company has developed, but I do want to ask you whether or not any competitor of the du Pont Company in this field has developed anything like the number of new and superior fabrics as the du Pont Company has.

A. I know of none.

Q. And has a substantial part of the sales of your division been due to your preeminent development of fabrics of this type?

A. Yes, sir.

Mr. Neitzert: With reference to the other factor that you referred to yesterday as important to your customers, particularly the General Motors, and one of the sales arguments that you used, namely the production capacity of the du Pont plant and the ability of your division to meet emergency demands, I offer in evidence, your Honor, Exhibit DP 242, which is a letter from T. A. Nalle to Mr. Doremus, dated August 5, 1940.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 242.)

By Mr. Neitzert:

Q. What position did Mr. Doremus hold with the du Pont Company in 1940, Mr. Nickowitz?

A. Mr. Doremus was a correspondent located at Newburgh, and was responsible for correspondence duties on automotive materials.

[fol. 4444] Q. I believe you have already testified that Mr. Nalle was your automotive sales representative in Detroit.

A. Right.

Mr. Neitzert: This reads as follows:

"Newburgh certainly did a fine piece of work in getting out all of the material scheduled for Fisher last week, some of it was in very short notice and some involving schedules which were advanced unexpectedly.

"This is extremely good service and is greatly appreciated by the Fisher people who are responsible for getting the stocks on hand to take care of production,

which for some of the divisions was moved ahead in advance of the original planned starting date."

By Mr. Neitzert:

Q. Is this another example of the type of thing that you have testified to, namely where unusual demands have been made upon the du Pont Company for emergency deliveries?

A. It is.

Q. And in this letter I notice the first paragraph refers to deliveries made on very short notice, and also deliveries made under schedules which were advanced unexpectedly.

Are there two types of deliveries referred to in this paragraph?

A. Yes. As I explained yesterday, I believe it was, after Fisher Body got lined up on their constructions for a new model, orders for the raw materials that we supply with which to produce those models are issued to cover periods of six to eight weeks, and they are called releases.

These releases are issued consecutively. Frequently we [fol. 4445] are asked to step up the delivery of a release by a week, two weeks or three weeks, and yesterday I cited—

Q. No; just a moment. Don't give any example here. You have been over this. I just want to identify what is referred to here in connection with what you previously testified to.

Now, these advanced schedules are one type of delivery referred to.

Now, what are the deliveries that are referred to in this letter that were made upon very short notice?

A. Well, occasionally one of our competitors may fall down on delivery for one reason or another, and we are frequently asked to step into the breach and fill that added requirement.

Q. That is the other type of delivery you referred to?

A. Yes.

Q. Are developments of the kind referred to in this letter unusual or are they very common?

A. They are quite common; quite common.

Q. And have the General Motors' buyers ever commented upon the importance of the du Pont service in such cases?

A. Yes, many occasions, and not only the buyers, but the

body engineers. Mr. Vern Fisher, for example, told me specifically that du Pont is a very important source of supply to them, that they need du Pont—they need the facilities that we have. They need it because of our research facilities, and because of our production facilities, when problems of these types come up, and they have got to have somebody that is substantial in the industry, and [fol. 4446] they have many times told us that they just have to have a concern like ours to take care of their needs in this instance.

Q. In your testimony you have not referred to sales to Buick or Olds or Pontiac, and possibly some of the other General Motors divisions.

A. Do they buy some of these fabrics?

A. Very, very little. You see, since 1930 the automobile manufacturers in the General Motors units like Chevrolet, Oakland, Oldsmobile, et cetera, stopped making their own bodies and they have bodies that are manufactured for them by Fisher Body, and Fisher buys the coated fabrics.

Q. Have you covered in your testimony all of the automobile divisions that have coated fabric requirements?

A. Yes sir,—Fisher, General Motors Truck and Chevrolet Commercial.

Q. Mr. Nickowitz, it is alleged in the amended complaint filed in this cause that beginning in 1917 it was understood and agreed between General Motors and the du Pont Company that because of the latter's alleged acquisition of control of General Motors, General Motors would give preference to the du Pont Company in buying products for use in its operations.

Have you ever heard of any such understandings or agreement?

A. No, sir.

Q. It is also alleged in the amended complaint that it was agreed General Motors would purchase from du Pont all or substantially all of its requirements of products manufactured by du Pont, and would refrain in whole or in part from purchasing such products from competitors of du Pont.

[fol. 4447]. Have you ever heard of any such agreement as that?

A. No, sir.

Q. If there were such an agreement, and it involved the sale of coated fabrics, would it come to your attention as the director of sales of the Fabrics Division?

A. It certainly would.

Q. It is also alleged in the bill of complaint that beginning in or about 1917, General Motors has purchased all or substantially all of its requirements of artificial leather from the du Pont Company.

Is that allegation true or false?

A. It is false.

Q. It is also alleged that beginning in or about 1917, General Motors has purchased all or substantially all of its requirements in the fabrics field from the du Pont Company.

Is that allegation true or false?

A. False.

Q. It is also alleged that the original policy of requiring General Motors to purchase exclusively from du Pont products that du Pont was able to supply was subsequently modified to permit General Motors to purchase from 20 to 25 per cent of its requirements of the products du Pont manufactured which General Motors used from companies other than du Pont, leaving du Pont with 75 to 80 per cent of General Motors business.

Did you ever hear of any such agreement as that?

A. No, sir.

Q. Or anything like it?

A. No, sir.

Q. Or any understanding like that?

A. No, sir.

Q. Since 1922 have the General Motors companies as a group ever purchased 75 per cent of their requirements of coated and combined fabrics from the du Pont Company?

A. No, sir.

Q. It is also alleged in the amended complaint that [fol. 4448] General Motors is a protected market for du Pont from which its competitors have been substantially excluded, and that General Motors has provided du Pont with a substantial and highly profitable outlet for its products.

In your entire association with the du Pont Company, Mr. Nickowitz, have you ever seen or heard anything that

indicated to you that General Motors was a protected market for du Pont fabrics?

A. Absolutely not.

Q. Have you ever heard of any agreement or understanding that General Motors or any of its divisions or subsidiaries would favor the du Pont Company in the purchase of coated or combined fabrics?

A. No, sir.

Q. Have you ever seen or heard anything that indicated to you that the General Motors Corporation or any of its divisions or subsidiaries have favored du Pont in any of these respects?

A. No, sir.

Q. Who, as far as you have been able to determine, checks the sources from which the General Motors divisions buy their requirements of coated fabrics?

A. The Purchasing Department and the Engineering Department.

Q. Of each division?

A. Yes, sir. You have got to get approval from Engineering, and then the purchasing agent buys from the approved sources.

Q. In your efforts to sell coated fabrics and combined fabrics to the General Motors Divisions, have you ever referred to the fact that some of the stock of General Motors Company is owned by the du Pont Company?

A. I certainly have not.

Q. To whom do you report?

A. I report to Mr. Walter F. Mattlage, Division Manager of the Fabrics Division.

[fol. 4449] Q. How long have you reported to him?

A. He has been Division Manager for just about a year.

Q. Who held that position before him?

A. Mr. J. R. Buckley. He was also located in New York.

Q. Have you ever asked Mr. Buckley or Mr. Mattlage or any other official of the du Pont Company to aid or assist you in obtaining business from any of the General Motors Divisions?

A. I have not.

Q. As far as you know, have you ever received any

assistance from any of the officials or officers of the du Pont Company in that respect?

A. No, sir.

Mr. Neitzert: That concludes the direct examination, your Honor.

Mr. Hurd: If the Court please, I would like to have this witness withdrawn in order to permit me to put on a short witness.

I have taken it up with counsel for the Government and with Mr. Neitzert, and it is agreeable to them. Is that agreeable to the Court?

The Court: The Court has no objection.

Mr. Hurd: If you will step down for a short time.

(Witness temporarily withdrawn.)

Mr. Hurd: I will call Mr. Weckler.

I might explain to the Court that this witness is appearing out of order as far as the subject matter is concerned.

He deals with the subject of automobile finishes and logically it would have fit into the last week's testimony, but he was unavailable at that time. That is why we would like to put him on now.

[fol. 4450] HERMAN L. WECKLER, called as a witness by the defendants, having been first duly sworn, was examined and testified as follows:

Direct Examination.

By Mr. Hurd:

Q. Will you give us your full name, Mr. Weckler?

A. My name is Herman L. Weckler.

Q. Where do you live, Mr. Weckler?

A. I live in Grosse Point Park, Michigan.

Q. Is that near Detroit?

A. Yes, sir, it is immediately east of Detroit.

Q. Mr. Weckler, were you employed at one time by the Buick Motor Company?

A. I was.

Q. When did your employment begin?

A. In 1912.

Q. How long did you remain employed by the Buick Motor Company or the Buick Motor Division of General Motors Corporation?

A. Until 1932.

Q. Prior to your going with Buick in 1912, had you had any other employment?

A. Yes, sir.

Q. What was your first employment?

A. My first employment was the Jones Laughlin Steel Company at Pittsburgh, Pennsylvania, from 1904 until 1908.

Q. What employment did you have after 1908?

A. In 1908 I joined the American Locomotive Company at Pittsburgh, Pennsylvania, and worked there until 1912.

Q. What were the circumstances of your going with Buick in 1912?

A. While I was employed at the American Locomotive Company, Mr. Walter Chrysler joined that organization, some time in 1909 or early 1910.

In connection with our work we became quite friendly. Mr. Chrysler and I both felt that the locomotive industry [fol:4451] did not offer as much opportunity for younger men as the automotive industry, and we began looking around to find some connection that would take us into the automotive industry.

We found such a connection at the Buick Motor Company.

Q. Did Mr. Chrysler go with Buick at the same time that you did?

A. Mr. Chrysler went with Buick at about the same time that I did as works manager of the Buick Motor Company.

Q. What was your position?

A. My position was termed as mechanical superintendent. I reported directly to Mr. Chrysler in that capacity.

Q. As mechanical superintendent, what was the nature of your duties?

A. The nature of my duties was to study the production output of the various divisions of the Buick Company and to determine the lowest production units.

After these lowest production units had been found, it was my job to devise means and methods of improving

that production so that the entire production of the company could be raised.

Q. What do you mean by lowest production units?

A. Well, in case of a forge plant, you would study the output of a forge plant. They make axles and crankshafts and connecting rods, and many other different types of forgings, and your production schedule might call for the equivalent of 25 sets of forgings per day.

Now, if we found an item that was not up to the capacity of 25 forgings per day, that was the item that we tackled [fol. 4452] to bring it up to 25, and to also put the forge plants in position for increased production over the 25 per day rate.

Q. What were some of these low production points that you worked on in the early years of your employment by Buick?

A. Well, in the forge plant we had an example that we were getting just 40 front axles per day. We would have liked very much to have increased that to double that capacity.

Investigation of the forging situation, especially as it applied to the axles, the front axle, indicated that the crew who were operating the hammers had one furnace with which they heated the materials, and after the materials were heated, the forging crew put them through the hammers and made forgings of the billets, and then they were required to wait until the next heat had been placed in the furnace and was ready for forging.

In a case of that kind the solution of the problem was indicated as adding another furnace and another crew, so that while one crew was changing billets to forgings, the other crew was heating their billets so as to be prepared to operate their hammers, the same hammer after the other crew had finished their work.

So we really double the production of axle forgings by the addition of equipment.

Q. Was that something that you worked out?

A. That was one of the problems.

Q. What other type of problems did you encounter in those days?

A. There were many problems all through the various plants. At that time Buick was building its own bodies,

making its own transmissions and its motors, its forgings, some of its castings, and they had a stamping plant or sheet metal plant and assembly and painting operations.

[fol. 4453] My work took me into all of those various activities of the car building industry.

Q. Now, how long did you have these particular duties?

A. I think that during my entire employment I was interested in that capacity, although, after I had been there a few years I was assigned, in addition to these regular duties, the duties of so-called plant engineer, and that gave me direct supervision and control of certain departments, such as the maintenance department, the distribution of services, the operation of power plants, the planning of new and additional building, alterations required to increase production, or to change models and that sort of work.

It had no connection with the actual production of the cars except through this other capacity of trying to bring up the low spots.

Q. Did these additional duties occur while Mr. Chrysler was manager, or was it before that?

A. The additional duties were added at about that time Mr. Nash was president of Buick, and moved on, and Mr. Chrysler became president.

Mr. Harris: May we have the year, please?

Mr. Hurd: Yes, I will try to get it.

Mr. Harris: Thank you.

By Mr. Hurd:

Q. When you went there in 1912, who was manager of the Buick business?

A. Walter Chrysler was the works manager and Mr. C. W. Nash was president.

[fol. 4454] Q. When was it that Mr. Nash ceased to be president of Buick?

A. I do not have the exact date.

Q. Was that at the same time that he left the presidency of General Motors?

A. Yes, sir.

Q. I believe the record shows it was about 1915.

A. Yes, about that.

Q. At that time, Mr. Chrysler became president?

A. President of Buick.

Q. Now, when Mr. Chrysler went into the central office, which I believe the record shows is around 1919, who became head of Buick?

A. Mr. Harry Bassett.

Q. Did your duties change at that point?

A. No, they continued on under Mr. Bassett.

Q. Was there any change in your duties in the 1920's?

A. In 1920?

Q. In the 1920's?

A. In 1924, I became assistant works manager which made me responsible for the actual production of the Buick automobile under Mr. Durham who was works manager.

Q. Were there any other changes made in your duties while you were with Buick?

A. In 1926, Mr. Durham retired and I took his position as works manager.

Q. Now, when Mr. Bassett became head of Buick, which I believe was around 1919 according to the records, to whom did you report?

A. Directly to Mr. Bassett.

Q. How long was Mr. Bassett head of Buick?

A. Until 1926.

Q. What happened at that time?

A. He died.

Q. Who succeeded him?

A. Mr. E. T. Strong.

Q. To whom did you report after Mr. Strong became head of Buick?

A. At the time Mr. Strong became president or general [fol. 4455] manager of Buick, I was works manager, and I reported directly to Mr. Strong.

Q. Now, to go back briefly to the 1912 period, Mr. Weckler, you have mentioned paint as one of the—painting cars as one of the matters that came under your general jurisdiction or consideration.

What was the situation with respect to the finishing of automobiles in 1912 and 1913 at Buick?

A. Well, at that time, the painting operations were not under my direct supervision, but in my capacity as mechanical superintendent it became one of my problems to find

methods to improve, or increase the production of the painted bodies which were needed for our output.

Our first studies of the paint situation indicated very clearly we had assigned all the available spots to the painting operations, and that if we were to increase the production of Buick automobiles, it would be necessary either to develop methods which would shorten the time of the painting operation, or would require additional buildings, and we decided to concentrate on the increase of production in the existing plants rather than to build plants for that purpose.

At that time, the requirements, after a body had been completed and turned over to the Paint Department was approximately twenty-eight days, from the time it was turned over until it was ready to mount on a chassis, and large areas were used for the drying of the various coats of paint that were applied, and this drying at that time consisted entirely of large rooms, called "dark rooms," where the bodies were dried at approximately room temperature.

[fol. 4456] We soon found that the application of paints and varnishes to the bodies by hand, and by the means of camel's hair brushes, and things of that sort, was rather a tedious operation, and we began to explore the methods of spraying and flowing, to see what could be done to improve those operations.

At the same time, we studied as an experiment the installation of ovens with heat to accelerate the drying of the coats of paint throughout the operation.

This process, of course, continued over a period of some few years. While we were making progress in the development of better and faster methods of applying and drying of paints, we became conscious of the fact that the materials that were being used needed improvement, that the life of the undercoats and finish varnish were of such a nature that they did not last after the car was delivered to the customer.

In a short time, the customer had the problem of doing something about refinishing his car.

Both Mr. Chrysler and I felt that something should be done to see what could be done to lengthen the life of the painted automobiles, so we began to experiment with what might be done to lengthen the life of the coats of the various paints, and so on, and we soon became convinced that the

materials that we were using, even if they could be improved even to the extent of doubling their life, still would not be considered by us as satisfactory as a long term automobile finish.

So we began to study the problem from that standpoint, and some time after that, in discussing the matter with Mr. Chrysler, I told him I thought that the problem was bigger [fol. 4457] than one division of the corporation's activities should encompass, and that I thought it would be wise to form a committee consisting of the members that were interested in the painting activities of the various divisions, and also bring in the Fisher Body Company which was becoming a very large supplier of bodies to the corporation, and take advantage of our research and development section of the corporation.

Q. Now, prior to that, had there been any coordination or cooperation between the divisions with respect to the paint problem?

A. Oh, there had not been any organized relationship, but naturally people interested in paint in the various divisions visited casually back and forth to see what the other divisions were doing, and pick up those casual improvements that might be made to their painting.

In talking generally of going to a radically different material for a paint finish, at different times I would talk to members of the General Motors research, but I felt that the committee of paint and varnish was rapidly passing out, and that some new materials were needed.

Q. Was a committee formed consisting of representatives of the various divisions such as you suggested to Mr. Chrysler?

A. The committee was formed late in 1921.

Q. Was that the Paint and Enamel Committee?

A. Paint and Enamel Committee.

Q. Were you a member of that committee?

A. Yes, sir.

Q. Who selected you as a member of that committee, if you know?

A. Mr. Bassett.

Q. He was then head of Buick?

A. Yes, sir.

Q. Did you work with that committee after its formation in late 1921?

A. Yes, sir.

[fol. 4458] Q. What, if anything, did that committee do with respect to this problem of finishing automobiles?

A. Well, the committee met, and a committee was organized, and discussed the task of contacting outside firms, and discussed the problem with them; that was assigned to the research and development section, and the various divisions of the corporation, the representatives of the paint committee agreed to do all they could to have a test and experiments done, and tried to develop a method of using the new materials that might work, or be worked up by the central section.

Q. Did the Research find any new materials?

A. Oh, yes, they found several materials, the most important one of which was the du Pont material.

Q. That is the dope that later became known as "Duco"?

A. That is right.

Q. Were any tests made of that material, do you know?

A. Various tests were made in the beginning. The tests were confined to the panels, that is coating the steel panels, and the wood panels, with that material, and set it out for exposure to see how it stood up in weather as compared to the paints and varnishes that were being used, and as the materials were developed and gave more promise of being successful, why, we began experimenting with applying the paint to larger pieces and also to complete bodies.

Q. Did Buick participate in this experimental work?

A. Buick took the leadership, and most of the experimental work was done at the Buick plant.

Q. And under whose direction was that done?

A. Under my direction.

[fol. 4459] Q. About when was this that Buick was conducting these experiments?

A. Well, as I say, the Paint and Enamel Committee was formed late in 1921, and we immediately took up the work and carried on through until the material was finally adopted for finishing Buick cars in 1924.

Q. What did your early experiments at Buick with the du Pont lacquer indicate?

A. They indicated to us that we were on the verge of finding a material that would last indefinitely longer than the

paints and varnishes that we were using, and that while we had some problems about the application of the material, its ability to stick to steel, its ability to withstand shock and withstand other problems that you have in paint, why, we felt very definitely that it was a material that could be developed into a satisfactory finish.

Q. In 1923 did Buick put any cars into production using this new lacquer?

A. We put—of course, we started out with one job, and we played with that, and then we applied the paint and took it off and put it on and so on, and I think that I drove probably the first car with the "Duco" material on it, and that was previous to 1923, but I don't remember the exact date, but by 1923 we had gotten to the point where we were painting cars for our executives so that we could have them under observation and test right in our own section.

Q. Did you ever reach the point where you personally considered that this "Duco" might be the answer to your paint problems?

A. Yes, sir, in 1923 I recommended to Mr. Bassett that the Buick Motor Company begin finishing its cars with "Duco".

Q. What position did Mr. Bassett take?

A. Mr. Bassett took the position at that time that to apply the finish to a small portion of the Buick production would [fol. 4460] create many problems of service in the field, and in the dealer organization and service organization which already had plenty of problems with the refinishing varnishes, and so forth, and he felt that the introduction of this new material at that time would create a problem of education and difficulty because of the different nature of its application and its behavior by application, and he felt it might be better at that time for one of the other divisions who did not have the volume and representation of Buick, to try out this material.

Q. Did he make any suggestion as to what division should try it out?

A. Well, at the time he discussed the matter he talked about the Oakland Division.

Q. And do you know whether or not Oakland tried it out?

A. Oakland did try it out. They went farther than trying it out, because they had been paralleling our experiments at

Oakland, and when they made the decision to go to this material they decided to put their entire production into it.

Q. When was that, approximately?

A. That was 1923.

Q. Would that be for the '24 model?

A. I am not certain whether they applied it to the new model. I would think they would, but I am not certain about that.

Q. And did they carry out this plan, do you know?

A. Yes, the Oakland Company began applying the "Duco" materials, and were very highly successful in doing it. By that I don't mean it was perfect material. They still had problems to work out and so on, but it was considered a very highly successful change in material.

Q. I believe you mentioned earlier that Buick went to "Duco" in 1924. Was that for the '24 model or the '25?

A. That was for the '25.

[fol. 4461] Q. That came out what time during the year of 1924?

A. Buick cars were usually announced the first Saturday nearest August 1st—I mean the Saturday nearest August 1st.

Q. Did you have any discussion with Mr. Bassett prior to Buick's going to "Duco" in 1924?

A. Oh, yes. Mr. Bassett was kept informed as to how we were getting along, and was interested in knowing how the thing was progressing, and was very much interested in our opinion as to how soon the thing would be ready for production.

Q. And what opinion, if any, did you give him?

A. I recommended the material, as I said before, before it was applied to the Oakland jobs.

Q. And who made the decision that Buick would go to "Duco" in 1924, do you know?

A. Mr. Bassett.

Q. And do you know on whose recommendation he did that?

A. On my recommendation.

Q. And did you ever meet with Mr. Allen of the du Pont Company and with Mr. Bassett to discuss "Duco"?

A. I was present at one meeting between Mr. Allen and Mr. Bassett in Mr. Bassett's office.

Q. Do you recall what the discussion was?

A. Well, the discussion was along the line that Mr. Bassett wanted the assurance of Mr. Allen as to their ability to supply themselves with the material necessary to make "Duco", that there were some problems to be worked out in the direction of improving the lustre of the material as we were using it at that time, and there were certain problems in colors, colors that were available in "Duco" at that time were not considered by Mr. Bassett as being of wide enough range to meet the Buick requirements, and problems of that sort.

[fol. 4462] Q. About when was this discussion?

A. Oh, that was previous to our adoption of the stuff in 1924.

Q. Would it be some time in the year 1924?

A. I would think so; in the early part of the year.

Q. Did Mr. Allen state to Mr. Sloan that he was interested in the new dope?

A. No, not to my recollection. At that time I thought I was the only one that was interested in it.

Q. Were you ever told that Mr. Sloan wanted Buick to go to "Duco"?

A. No, sir.

Q. Following the adoption of "Duco" at Buick in 1924, what did the other divisions do with respect to this material?

A. Well, one after the other they began to use either "Duco" or similar materials on their production.

Q. Began to use lacquers of some kind?

A. Lacquers.

Q. Did your paint committee terminate then, or did it continue on?

A. No, the paint committee continued to function.

Q. After the adoption of "Duco" do you know whether or not any experiments were conducted to find a competitive lacquer that would be satisfactory?

A. Yes, sir, the Paint & Enamel Committee was very much interested in continuing the study, and the various divisions of the corporation took up the testing and experimenting with materials other than "Duco."

Q. Did Buick participate in any of that?

A. Yes, sir.

Q. Do you recall whether or not the Research Division, in

the latter part of the '20's, found any materials that they considered promising or satisfactory?

A. Well, at the Buick plant our experience was that we did not find any materials that were satisfactory as the "Duco" [fol. 4463] material, and we were progressing very well with the materials, and were reluctant to change our entire system, and in addition to that "Duco," the du Pont Company had a plant, the Flint Paint & Varnish Company, which was located very close to the Buick Motor Company at Flint, and we thought it was a decided advantage to have a plant in that location making material, because, as we say, all of the bugs had not been worked out of the thing, and this established a source of supply which was so convenient that in a few minutes we could work back and forth if we got into some sort of difficulty or if we had any questions, and we were very close together, and we thought with all of those advantages, we thought we might better go along with the material we were working with.

Q. When you went with Buick in 1912, where was Buick buying its varnishes?

A. Flint Paint & Varnish.

Q. The same outfit at Flint, Michigan?

A. The same plant.

Q. How long did they continue to do that?

A. Oh, we continued right through to buy from the Flint Paint & Varnish.

Q. What about the other divisions in the latter part of the '20's? Did they remain with "Duco" too, do you know, or did they go to any competitive materials?

A. I am not exactly familiar with just what the other divisions did, except in a general way I know that they did not all accept du Pont as their only source for materials.

Q. You left Buick in 1932?

A. That's right.

Q. Up to that time was Buick using the du Pont "Duco" practically exclusively?

A. Yes, sir.

Q. Whose decision in Buick—whose decision was it to [fol. 4464] continue on with du Pont, rather than to go with one of the competitive companies?

A. Mine, right along.

Q. Your decision?

A. Yes, sir. That is, I say it was my decision, but it was supported by the top management of the Buick Division.

Q. Mr. Weekler, it is charged in the complaint in this case that there was an agreement or understanding or conspiracy between du Pont and General Motors to the effect that General Motors would buy from the du Pont Company all or substantially all of its requirements of its products made by the du Pont Company.

Did you ever hear of any such agreement or understanding or conspiracy?

A. I did not.

Q. Did you ever hear that it was the duty of General Motors to buy substantial quantities of materials from the du Pont Company because the du Pont Company had a stock interest in General Motors?

A. No, sir.

Q. In making your recommendation to Mr. Bassett that Buick go to "Duco", were you motivated in any way by a feeling that there was an obligation to help out the du Pont Company or to buy from it?

A. No, sir, such an idea never occurred to me, and I never in all my experience at the Buick Motor Company, had any difficulty in buying any material from anyone at any time.

Q. In deciding not to go to any of the competitive lacquers later on in the latter part of the 20's or the early 30's, were you motivated in any way by a feeling of duty to favor the du Pont Company?

A. No, sir. I have just outlined here that we didn't find the material that was superior to the du Pont material. We were making good progress in the application and the experience that we had with it, and this plant being so close [fols. 4465-4467] to our activity—those were the reasons that we continued on with "Duco" while I was with Buick.

Q. When you left Buick in 1932, where did you go?

A. Chrysler Corporation.

Q. How long did you stay with Chrysler?

A. I am still with Chrysler until the 30th of this month, at which time I retired.

Q. What positions have you held with Chrysler?

A. When I first joined the Chrysler Corporation in 1923, Mr. K. Keller was general manager, and I went on Mr. Keller's staff, and about that time the activities of the NRA

and so on became considerations in industry, and I did a lot of work along the line of NRA activity and so forth, under Mr. Keller's direction.

We also studied the labor situation during that period, and we had our problems of organizing workmen's councils and so forth, and in 1936, in addition to my other duties, I was assigned to putting the DeSoto Division into a home of its own, and I became general manager of DeSoto, and installed the DeSoto organization in the DeSoto plant at West Detroit.

In 1937 we had a strike, and most of the negotiations of the strike at that time were under my direction.

After 1937 we consolidated the work at the DeSoto plant and in 1940 I became vice president and general manager of the corporation.

Q. What position do you hold today?

A. The same.

Q. Vice president and general manager of Chrysler Corporation?

A. That's right.

Mr. Hurd: If the Court please, that completes the direct examination.

[fol. 4468] Cross Examination.

By Mr. Harris:

Q. The superintendent of the Paint Department was Mr. Mullen, was it?

A. Yes, sir.

Q. What would your relations be between yourself as a member of the Paint and Enamel Committee and Mr. Mullen?

A. The Paint and Enamel Committee was a sort of a service organization which had no direct activity in the actions of the Buick Motor Company or its representative on the committee.

So that Mr. Mullen had no connection whatever with the Paint and Enamel Committee of General Motors.

Q. If the Paint and Enamel Committee had decided to use, say, "Duco," would Mr. Mullen be interested in what the Paint and Enamel Committee had decided to do?

A. He would be interested only to the extent that the Buick Motor Company had decided to do it.

Q. And what would be the function of the superintendent of paint when you decided, as you did, to take over "Duco" as a finish—What would he have to do with it?

A. It would be his function to apply it.

Q. Would he discuss with you the methods of application?

A. Yes, sir.

Q. That was one of your problems, wasn't it?

A. I am not certain that I know what you mean by one of my problems.

Q. Well, I had just been listening to you for a half an hour, and I thought you were a sort of trouble shooter, among other things, and a solver of problems, is that right?

A. That is right.

[fol. 4469] Q. Then this application of "Duco" was one of the problems, was it not?

A. That is right.

Q. And a very serious one, wasn't it?

A. Yes, sir.

Q. And with that you were intimately concerned, weren't you?

A. I was.

Q. And so was Mr. Mullen, wasn't he?

A. Yes, sir.

Q. Now, calling your attention to the beginning of "Duco", as far as you were aware of it, when did you first know that there was such a thing as "Duco"?

A. About the time of the formation of the Paint & Enamel Committee. It was not known as "Duco" at that time. We called it a dope, and the dope eventually developed into "Duco."

Q. Before it became "Duco," it was called Viscolac, wasn't it?

A. Yes, something like that.

Q. Now, the use of the word dope in technical language, has one meaning, hasn't it? It has nothing to do with what you might call in slang as dope.

What is dope in technical language when you are talking about substances or materials?

A. Dope is any material you apply to some other material.

Q. Yes, as coatings and finishes?

A. Yes. Whitewash might be considered a dope.

Q. Now, when this matter first came up before the committee, in what form was it presented to you as members of the committee?

A. It was presented to us—the Research and Development Department had made many contacts, among which was this contact with the du Pont Company.

The du Pont Company was one of the top companies who were interested in exploring the situation of trying to develop an automobile finish.

Q. Was this representation made by Mr. Mougey to the [fol. 4470] committee?

A. I don't know all the details of this thing, but Mr. Mougey was very active in the committee, so was Dr. Clements, and certain other members of his staff.

Q. Had you been advised, if you remember, whether du Pont had been cooperating with General Motors in the development of this particular—let us call it dope.

A. Well, I was advised of their contacts with the Research and Development Division, certainly.

Q. Now, what was the thing that sort of sold it to you, because you, as I understood your testimony, were either the first, or one of the first, to accept "Duco." What was it that sold it to you?

A. As I stated here before, I had a continuing interest in finding a new finish for automobile bodies and automobiles entirely. That began really in the year of 1912.

Q. Yes.

A. And after we had exhausted what we could do in the way of improving the existing materials, we decided that it was necessary to find some new material, and when we found—I think I also testified to the extent that it was my suggestion that a paint and enamel committee be formed so that all the divisions of the corporation could participate, and we would have the advantage of the central research and development organization.

In my capacity, I would not have cared very much whether the research and development division had brought in some material, or from Joe Doakes or from du Pont or some other division of the corporation. We were looking for a material, and when we found something that seemed to have promise, we naturally took onto it, and took it into our plants and

began cooperating with the makers of the material, trying to develop it as rapidly as possible to see if it were really [fol. 4471] the thing that we were looking for, and that was the first thing that we found.

Q. Now, as I take it, you were looking at it from the scientific point of view; that is, all you were interested in was to get a good finish for your company, were you not?

A. A lasting finish, yes; a good, lasting finish.

Q. Now, you, of course, were not interested in any pressures by salesmen, were you, at that time?

A. No, sir. The shoe was on the other foot. We were looking for materials.

Q. Now, were you aware at any time during this period, of pressure being put upon the heads of divisions, or purchasing agents to accept "Duco", and those pressures—let me finish—came from very high sources in the du Pont Company? Were you aware of that?

A. I was not aware of any pressure being applied to anyone, including myself, in our organization, nor upon the Paint and Enamel Committee members, nor upon the Research and Development Section, nor upon the Fisher Body Section, because in my work in finding this thing, it was necessary that the Fisher Body use, for the painting of Buick bodies, which they were making, the same kind of material which we were using at Buick, because it is necessary to understand that the Fisher Body Company supplied a body, and that the Buick Motor Company and other divisions of the corporation supplied, in general, the rest of the sheet metal works which went into it.

Now, it would have been rather disastrous to apply a body by Fisher which was prepared with the ordinary paints and varnishes, and then have a company like Buick apply some more lasting and more durable material to the hoods and fenders and the running boards, and all the other running gear which also was painted.

[fol. 4472] So it was acknowledged then that there should be cooperation between the suppliers of an important part of the automobile like the body with the automobile building companies that found it necessary to match the durability and appearance of the bodies themselves, so it was not a matter of trying to jockey somebody else into position on this thing. It was a matter, if one of the divisions decided to

use certain materials, it was imperative that the people who supplied other parts, especially a thing as important as the body to see that the paint be of the same nature.

Q. What I am asking is just your own knowledge of pressures.

A. I have no knowledge whatever of pressures. I have stated that.

Q. That is what I am asking you for.

A. Yes, sir.

Q. Now, did you become aware by any conversation with you whether any pressure was applied to Mr. Bassett by Mr. Sloan to accept "Duco" for Buick?

A. No, sir, I am not aware of it, and as I stated before, at the time that this event was supposed to have occurred, I think at that time I was the only one that was interested in having Buick accept it.

Q. Now, let us take the problem as it was faced by you when "Duco" came into your knowledge.

What was the finish then being adopted by the Buick Motor Company? What was your finish?

A. I don't get you.

Q. Before "Duco," what did you finish your cars with?

A. Well, we applied a certain number of undercoats; a couple of coats of color varnish and a couple of coats of finishing varnish.

Q. That was lacquer or paint and varnish?

A. Paints and varnishes.

[fol. 4473] Q. Paints and varnishes?

A. Yes, sir.

Q. Now, what was the difference between "Duco" and the paints and varnishes which you theretofore had been using? What was the difference?

A. The difference was entirely a difference in mechanical construction. It would be just as impossible to compare in a non-technical discussion here the difference between "Duco" and varnishes as it would be to discuss the difference between pears and apples.

For instance, they belong to the same classification of automobile finishes, but they are not comparable. They are entirely different. "Duco" was entirely new material.

Q. Yes.

A. It was not a matter of attempting to improve the last-

ing qualities of the materials we were using. This was a revolution, trying out an entirely new concept of a paint.

Q. Now, in coming back to my question, could you tell a layman what was the difference in the use of this "Duco" from paint and varnish? Can you tell us a few of its qualities? Never mind about its composition.

A. Well, if we leave the composition out, the qualities of "Duco" at that time that we did not have in paints or varnishes were exactly those that we were seeking.

Q. What were they?

A. They were durability and lasting qualities, something that would preserve the appearance of the new car for years to come.

Q. Now, what was the difference, if any, in the application to the car of paints and varnishes on the one hand, and of "Duco" on the other?

A. Well, in the beginning of my experience with paints, [fol. 4474] I think I pointed out here today that one of the methods of application in 1912 was the use of camels hair brushes, and it was necessary to be very careful what we call working out the paint and brush so as to get an even application of it, and I also testified that part of our work in the early development of these paint improvements was the changing method or type of paint application to spraying applications and to flowing applications.

Now, when "Duco" came along, we tried, and were successful in using the same spraying method that we used for paints and varnishes, but there was a difference in technique of the distance that you held the gun away from the work to be painted, the pressures which were applied, the amount of overspray which you had, the collection of the material that was over-sprayed; all those things were new problems, and also the matter of drying the paint, and drying the undercoats.

Different times were required, with different changes in temperature. There was a very decided revolution in the application of it. In other words, the men who applied the paints and varnishes had to be trained again about the methods of using "Duco".

Q. Did you find in Buick and of your own knowledge, as to other divisions, whether there was considerable or any reluctance on the part of the old paint superintendents, and

those concerned with applying paint and varnish, to the introduction of this new material and the different methods of its application?

A. I am very familiar with the situation that existed at Buick.

Q. All right.

A. And to some extent I am familiar with the fact that [fol. 4475] similar situations existed in the other divisions of the corporation.

Q. Yes.

A. At the Buick Motor Company Mr. Mullin who was superintendent of paint, when we began to talk with him about the necessity for a new finish and so on, he thought it was just a waste of time, that the finishes that were being applied were competitive, and he didn't see why Buick should carry the torch in trying to work out new plans.

Now, Mr. Durham who was works manager of the Buick Motor Company at that time went along in the beginning with Mr. Mullin, and felt very much like Mr. Mullin did, that we had already spent years in trying to improve the thing, and our finishes were satisfactory as far as competition was concerned, we had a good working organization, and they were reluctant to overthrow all of this to bring in a new material.

Now, the resistance by Mr. Mullin to the application of this new material was so strong that I found it necessary to take men out of my plant engineering department and fence off a section of the plant and do the experimental work in that section, and we excluded Mr. Mullin from that section until we were ready to make the decision to go to it, and then we informed Mr. Mullin that that was the decision, to go to that material, and Mr. Mullin then, by that time, had seen the developments as they were going along, and so forth, and he was not at all resistant to putting it in the shop at that time, but during the developmental stage Mr. Mullin was very, very resistant to having it done at Buick:

Q. Yes: Now, what was the position, as far as you know, [fol. 4476] Mr. Weekler, of Mr. Bassett, the head of the division, as to this revolutionary change?

A. Mr. Bassett was in the position that he was hopeful that out of this experimentation something would come, and he relied entirely upon me to carry on the activity, to carry

on our connection with the Paint Committee and its research departments and things of that kind, and he relied entirely on my judgment as to continuation of the experiments, the amount of money to be spent on it, and the direction of that activity.

Mr. Bassett was not opposed to the introduction of the material on Buick cars except to the extent that I explained this morning, that Buick's production was large, that it was a very important decision to make, and there were many problems that would follow in the field as the result of making the change at the factory, and that he counselled with me that he thought one of the other divisions of the corporation that would have not such a large volume of production, might try the thing, and if it failed, why it would save a great deal of embarrassment to Buick. On the other hand, if it came along, he thought we could adopt it in short enough time so that we would not suffer by having one of the competitors in the car divisions having a better finish than we did.

Q. Would you say, in the latter part of 1923, that Mr. Bassett was hesitating? Would that be a way to describe his attitude?

A. Well, I don't know the exact definition between "reluctant" or "hesitating."

Q. Well, "reluctant" will do.

A. But I think Mr. Bassett was a little reluctant to put Buick into the "Duco" finishes for the reason that I have just mentioned.

Q. Yes?

A. He wasn't opposed to it.

[fol. 4477] Q. No?

A. He was just a little reluctant, not because he doubted our recommendations to him, but because he felt that there were divisional problems that should be worked out at a level beyond the people that were recommending such a change, and I agreed very thoroughly with him.

Q. Now, by that you mean what,—“worked out at a level beyond the people recommending the change”? What does that mean?

A. Well, I think the decision to change from one finish

to the other is the decision that must be made by the head of the division.

Q. Well, wasn't he the head of the division, Mr. Bassett?

A. But he was talking to me as a member of his staff who was recommending the change, and he thought that instead of me making that decision, that he should make it.

Q. Yes, but he would have to, wouldn't he?

A. That's right.

Q. And he would have the responsibility, wouldn't he?

A. That's right.

Q. And, as you say, he was a little reluctant?

A. Yes, but the "higher level" I referred to, is the difference between his station and mine.

Q. I see, sir.

When was it, if you know, that Mr. Bassett decided that Buick should take "Duco"?

A. That was in the beginning of 1924.

Q. Was that in time for the 1925 model?

A. Yes, sir, the decision was made at a time when it was still possible for our engineers, plant engineering forces, to make the necessary changes in the paint equipment so that "Duco" could be applied at the beginning of the 1925 models.

[fol. 4478] It is always considered good practice to make the changes radical as that, with the model change.

Q. Now, at that time what was the percentage of open car production as compared with closed car production, in Buick? This is the 1923 and 1924?

A. Of course, I have been in this business for forty some odd years, and of course the relative importance of one model to the other is something that I have never attempted to remember, but I can tell you in general that it was during this period when we were experimenting with this change that the preference by our customers for closed cars was increasing very rapidly, and Buick never did go into the business of manufacturing closed cars.

Buick's body plant was originally designed for roadsters and touring cars, and as our requirements for closed bodies grew, those requirements were satisfied by Fisher Body.

Q. Yes?

A. And so that during the period which you speak of, there were two changes taking place, one that the various

sections of the wood body on the roadsters and touring cars were being replaced by metal outside surfaces on wood frames, and at that same time the volume of the production on the open cars was dropping off, and the volume on the closed cars was increasing.

Q. Yes, so that presented you with this problem, didn't it, that as far as the Buick open bodies—you called them "tourist cars"—were concerned, the application of the new product would be done by the Buick staff, would it not? That is, you, yourself, would do the finishing of the open bodies, is that right?

A. That's right.

[fol. 4479] Q. It meant too, did it not, that you had to convince Fisher Body that the new finish go on the closed bodies, isn't that true?

A. That is true.

Q. You had some difficulty there, did you?

A. Not particularly.

Q. Did you find Fisher took to the "Duco" as, shall we say, as eagerly as you did?

A. At the time of the beginning of the experiments, I think that I was probably the most enthusiastic person in General Motors promoting the development of the new material.

Q. Yes.

A. Now, as time went on and the results of these experiments became evident, the members of the Fisher organization visited all the plants that were doing experimental work, and there was an evolution in their thinking as they began to see the value of this new type of product, and so forth.

They realized that it was just a matter of time until it would be necessary for them to use the same material because, as I pointed out before, Fisher does not make the complete job. There is still quite a few pieces to be painted after the body is painted, and it is necessary that those pieces match up; that they have the same appearance, the same durability, and so forth.

So it becomes almost imperative that you use at least the same type of material, and preferably the same material.

Q. How long was it, if you know—I am speaking of the early days, Mr. Weckler—how long was it, if you know,

before Fisher really adopted "Duco" for the closed Buick bodies?

A. We had no difficulty at all with Fisher coming along after Buick had made the decision to go into the 1925 model [fol. 4480] production with "Duco". We experienced no trouble whatever with Fisher.

Q. Were all your closed bodies, that is, the Buick closed bodies, in that year's model finished with "Duco"?

A. That is my recollection, yes, sir.

Q. Were you ever aware of any difficulty that Fisher found in applying "Duco"? Did that ever come to your attention at that time?

A. Well, it wouldn't surprise me because we all had difficulty. With a material as revolutionary as lacquer as compared to paints, you run into all sorts of problems.

You run into the problem of matching colors. The bodies that Buick was using were built by Fisher in Detroit, and it was necessary to transport the bodies from Detroit to the Buick plants, and all of those things were considerations because it was sometimes, because of the fading or changing of colors of a paint—and this applies to varnish as well as lacquers—that a couple of days difference in the application time makes a difference in the shade of the color. That difference may be very slight and not noticeable, but in other colors it may become very noticeable.

In the beginning of the application of lacquers, not near so much was known about the mixing of colors and the delicate shades. We had trouble in paint fading or bleeding in a few days, and things of that kind. Certainly Fisher had production problems, but so did everyone else.

Q. My question was only directed, Mr. Weckler, to whether you knew that the application problems of Fisher Body delayed the adoption of "Duco" in the closed bodies of Buick.

A. No, sir, I did not know that.

Q. I am only asking now for your recollection. Did it or [fol. 4481] did it not, or don't you recall?

A. I stated that I have no recollection of any difficulty whatever in Buick being supplied with closed bodies painted with this new material, when they changed the 1925 model.

Q. When Buick changed?

A. When Buick changed.

Q. Now let's look at Oakland for a minute.

Do you recall the situation in Oakland?

A. Yes, sir.

Q. Did Oakland go into a wider production of "Duco" finished bodies or cars than you did?

A. They went in before we did.

Q. Yes. What year was it they went in?

A. They went in in 1923, I think.

Q. Now; at the time that you were considering the use of "Duco" in Buick, you had before you, did you not, the example of Oakland?

A. Yes, sir, Oakland was following along the experiments that were being made at Buick through the Research staff, and depended largely on our experimental work. But when they made the decision to go into it, to use the material on their own application, they began to be very busy and trained their own organization and went into it in a big way.

The only limitation that Oakland had as far as their policy of adoption was concerned was the limitation of colors. They weren't quite happy about the limited number of colors that they had, and I think that the most favored color was a blue color, and they concentrated on that and they had very, very good success with it.

Q. Just so that I get the picture right, when Buick or Mr. Bassett was trying to make up his mind to use "Duco" on Buick, he did have, didn't he, the example of Oakland before him? He could see what had been done by some other division, couldn't he?

A. Yes, sir. Mr. Bassett had before the decision of Oakland, [fol. 4482] had my recommendation that Buick adopt "Duco." As I stated here before, it was because of certain other considerations that Mr. Bassett thought one of the other divisions should take it up.

Q. Hadn't Oakland taken it up?

A. Not at the time I am speaking of.

Q. Oh, I see. But they took it up—

A. Oakland took it up after Buick decided that some other division should take it up. Then Oakland came to the front and they put it on.

They had it in operation for a year or more before Buick actually went into production, and naturally we were very

much interested. The Oakland people were very cooperative, and we learned all of the difficulties that they were having during their first year of operation and avoided them when we went into operation.

Q. Coming to the 1925 model, you have at that time the Oakland car finished with "Duco" and the Buick car finished with "Duco," don't you?

A. Yes, sir.

Q. What other of your cars was finished with "Duco" in that year's model?

A. My interest in the production was mostly Buick, and my interest in the Paint & Enamel Committee was largely one for Buick. I am not exactly familiar with what the other divisions of the corporation did because, except in a casual way, the problem of Buick was to get into production and solve their problems, and we concentrated on that.

We had no interest whatever in whether Cadillac was going to follow us the next week, or the next month, or whether Olds was going into the picture, or whether they were going to use "Duco" or continue with varnish. We [fol. 4483] in Buick were interested in only one thing, and that was to get our production as near perfect as possible on this new material.

Q. What I am trying to get at, Mr. Weckler, is your general knowledge of conditions in General Motors at the time we are talking about.

[fol. 4484] Cross Examination (Continued).

By Mr. Harris:

Q. Now, at the time, in 1924, that Mr. Bassett was coming to a decision on "Duco", he had the experience, had he not, of Oakland before him? That is true, isn't it? Oakland had used the "Duco" for one year at that time, had it?

A. Approximately, yes.

Q. And there was a problem, was there not, as to finish? Oakland had a less high lustre, had it not, than your old finishes, is that correct?

A. That is right.

Q. That was one of the things, wasn't it, that he was considering?

A. That is one of the things that I was concerned about.

and all of us working with the material were concerned about the same thing.

Q. Yes. Now, I would like you to look at Government's Exhibit No. 394. This is a letter of March 25, 1924, from [fol. 4485]. Mr. Sloan to Mr. Allen, general manager of the Cellulose Products Department. Mr. Allen was the head man on "Duco", wasn't he, in du Pont?

A. Yes, sir.

Q. Now, I call your attention to the fact that he is writing to Mr. Allen, that is, Mr. Sloan is, acknowledging a letter of March 24, and saying:

"I am glad you have seen Mr. Bassett, and have gone into the matter so thoroughly."

Were you present, if you recall, at a conference between Mr. Allen and Mr. Bassett about this time on "Duco"?

A. Yes, sir. I testified to that this morning.

Q. Well, that is all right. Was that the only conversation that you were present at with Mr. Allen and Mr. Bassett?

A. Yes, sir.

Q. What time in March was that, if you know?

A. I don't know.

Q. What was said by Mr. Allen to Mr. Bassett, if you know?

A. Mr. Allen gave Mr. Bassett assurances that the questions which Mr. Bassett had on his mind—and I think I have enumerated those generally this morning, were the matter of the improvement in the material, and the appearance of the material built by the du Pont Company, to supply them with sufficient raw materials to meet the Buick schedules, and improvements.

Q. Now, what was said particularly about finishing?

A. Finishing at about this time was that the finish of "Duco" was more of a satin finish, as compared to the bright lustre of the paints and varnishes.

Q. Yes.

A. And we were hopeful, and were bending our efforts in the direction of perfecting "Duco" material so that it [fol. 4486] would equal in lustre the other materials, and Mr. Bassett wanted an assurance from Mr. Allen that the

du Pont Company would continue to improve the "Duco" appearance to be the equal of paints.

Q. Was Mr. Allen able to satisfy Mr. Bassett that he would, if you know?

A. Well, I know that Mr. Bassett, in his conversations with me later, felt that the du Pont Company would carry on as Mr. Allen had outlined.

Q. Now, isn't it a fact, Mr. Weckler, that the Oakland Company had a process known as the burnishing process by which they put this luster on?

A. Oh, there were many types of finishes under consideration and under experimentation at that time. Some went in the direction of trying to polish rather than burnish the material, using a polishing material, and also a regular buffing material, trying to buff a surface onto the "Duco." That was fairly successful.

Others of us were trying it with wax finishes, to produce a higher luster. At one time, we put a finishing varnish over the "Duco," itself, to get the luster.

At that time we were fairly well satisfied that we had made progress enough so that the appearance of the cars would improve as we got farther into it.

Experience in the laboratory of course accumulates rather slowly, but once you get into production and have a high volume, and are working with hundreds of bodies or pieces per day, your experience comes along much more rapidly than if you are concentrating in a laboratory on one or two pieces.

Q. What I am asking you, Mr. Weckler, is the elements [fol. 4487] that went to make the decision of Mr. Bassett, and I wondered whether you could tell me what inducements or what satisfaction Mr. Allen could give that the finish would be satisfactory to Mr. Bassett, in view of the fact that Oakland had an operation which made a finish satisfactory to them.

A. Well, you will find the competition among different divisions of an organization—

Q. Would you mind answering my question?

A. I am trying to.

Q. My question is, what did Mr. Allen say to Mr. Bassett. That is what I am asking about.

A. I have attempted to tell you what he had told me. I cannot quote him because I don't remember.

Q. All right, let us pass to the next sentence: It is before you.

"Mr. Bassett, I appreciate undoubtedly has a better measure of the situation than I have, but my personal feeling is that there is plenty of evidence in the way the public is taking the Oakland finish to warrant the feeling that Buick could get away with it equally satisfactorily. Certainly, it is impossible to assume that if Cadillac can do it, and Oakland can do it, that Buick cannot do it."

Does that indicate to you, Mr. Weekler, at the end of this conversation Mr. Allen had not satisfied Mr. Bassett?

A. This letter, I did not see at the time it was written.

Q. No.

A. I haven't the least idea what was going through Mr. Sloan's mind or Mr. Allen's mind or Mr. Bassett's mind at the time this was written. I can give you only the results of my own observation, and they could be summed up to [fol. 4488] this extent, that as the result of Mr. Allen's visit, Mr. Bassett explored with him every facet of the problem, as I have tried to outline here.

Now, Bassett's decision was not, as I understand, based entirely upon his visit with Mr. Allen, but was based largely on the recommendations of myself, and of our other engineering and styling divisions, and so forth, and Mr. Allen's visit to the Buick Motor Company was an incident that was used in the process of finding out, and satisfying the management of an organization that the supplier is really in a position to do the things that the customer expected him to do.

Q. Would you say, or do you now—I will put the question in this fashion: Do you know whether Mr. Bassett came to a decision in part because Mr. Sloan had talked to him about it?

A. I do not think for a moment—

Q. I am asking you whether you know, first, sir?

A. I don't know, because I had no discussion with him.

Q. Now, do you know whether Mr. Bassett was a member of the Operations Committee at that time?

A. Yes, sir.

Q. I call your attention to the last sentence:

"I will make a note to discuss this matter at the next meeting of our Operations Committee with a view perhaps of developing a little more atmosphere in the mind of Mr. Bassett."

Did Mr. Bassett ever tell you that that had been discussed in the Operations Committee?

A. No, he did not.

Q. I call your attention to a letter of May 2, 1924, which [fol. 4489] is GM Exhibit 120-A. You will note that there was a conference at the Buick Motor Company at which Bassett was present and you were present, and at that time, May 2, 1924:

"We learned Bassett had in mind turning the entire Buick production into 'Duco'."

Now, did Mr. Bassett, before this time, discuss with you the turning of the entire Buick production into "Duco"?

A. I had recommended it to him.

Q. I say did he discuss it with you?

A. Yes, during the time I made the recommendation.

Q. Well, when did he first tell you that was his intention to put the entire Buick production into "Duco"?

A. He never did tell me that.

Q. How did you know?

A. You are talking about his intentions.

Q. How did you know that the entire Buick production was going into "Duco," if you ever knew it?

A. Because Mr. Bassett, after we had several meetings on the matter, agreed that we should put the entire production into "Duco" and it was not a matter of intention. It was a matter of decision.

Q. All right. Was that after Mr. Allen had seen you?

A. I think so, yes.

Q. All right. Now, do you know what models of the Buick line were put into complete "Duco" for the 1925 season?

A. All of them.

Q. Sir?

A. All of them.

Q. Were the closed bodies put in?

A. Yes, sir.

[fol. 4490] Q. I call your attention to du Pont Exhibit No. 189. This is a report of May 12th, 1924, by Mr. Moosman, to Mr. Flaherty—they are du Pont people—and he reports in the second paragraph four sport models, two roadsters and two tourings in process of completion.

Now, do you know whether they were the ones that were put into the 1925 "Duco"?

A. Those were experimental jobs.

Q. All right. Did your closed bodies in that year take a "Duco" finish?

A. Yes, sir.

Q. Sir? They did?

A. Yes, sir.

Q. Now, Mr. Weckler, what about competitive finishes which were the equivalent of "Duco"? Were there any such, did you find in your experience?

A. I don't know what you mean by "equivalent."

Q. I mean by that, had the same qualities as "Duco" and would appear to you to be equally satisfactory for use in the Buick line?

A. Our test didn't indicate that we had found anything that was so satisfactory as the du Pont material.

Q. What time are you speaking of?

A. I am talking about the time that we went into production with "Duco," and for several years later.

Q. All right. When did you first, if at all, find a competing product to the du Pont product that was equally satisfactory with "Duco"?

A. Not during my term with Buick.

Q. You left in 1932?

A. Yes, sir.

Q. You went to Chrysler?

A. Yes, sir.

Q. What was Chrysler using when you came there?

A. Chrysler was using enamel on some, and some, "Duco," some lacquer.

[fol. 4491] Q. What was the type of finish Chrysler was using as compared with the du Pont "Duco"?

A. They were using enamels.

Q. Is that the same as "Duco"?

A. No, sir.

Q. All right. Did they ever put their line generally into finishes the same as "Duco"?

A. No, sir.

Q. Where did you get the material that Chrysler used? Where did you buy it from?

A. The enamel type of material is not at all comparable to the lacquer types of material.

Q. I appreciate that.

A. Just please let me finish.

Q. All right.

A. Now, it is just the comparison I made this morning, it is like trying to compare apples and pears; they are both fruit, but they are not comparable.

Now, at the time that we were going through the experiments at Buick, the Flint Paint & Varnish Company were experimenting with materials other than "Duco," and I, through the Paint and Enamel Committee of General Motors, was recommending that we continue our search for other materials. I was hopeful of finding a material in which the operator could just walk around the body and open his spray gun and continue to walk around until he had found a satisfactory amount of material on the job, and I think I was largely instrumental in keeping the interest of the Flint Paint & Varnish Company along lines of that kind, and before I left the Buick Motor, they had some success along that line.

When I came to the Chrysler Corporation in 1932 I found that they had already adopted a material of that sort and were using it.

Q. Now, were they buying it from Flint Paint & Varnish?

A. I am not certain, because as I said this morning, my [fol. 4492] first duties with Chrysler were in other lines of work, labor relations and so on, so I was not particularly interested in that.

Q. You were at no time interested in paint after you got to Chrysler?

A. I was interested in paints, but at that particular time I was not interested in the sources of the paint.

Q. Well, what is the kind of finish that Chrysler used at the time you came there?

A. They were using enamels.

Q. All right.

A. And they were also using lacquers.

Q. What was the finish that you got from Flint Paint & Varnish, was it for lacquer?

A. Enamel.

Q. Would you say that is comparable to "Duco"?

A. I just stated the materials are not comparable.

Q. Did Chrysler at any time adopt a finish that is comparable with "Duco"?

A. Not to my knowledge.

Q. Well, you would know, wouldn't you?

A. I think so.

Q. Are you familiar with the finishes used by other automobile companies?

A. Generally, yes.

Q. Are there any large automobile companies other than General Motors using a finish comparable to "Duco" and others who are using a finish comparable to enamel?

A. I couldn't enumerate them for you.

Q. Yes, please.

A. I say I could not.

Q. Could you name any company that uses a finish comparable with "Duco"?

A. I would be reluctant to do that because I am not familiar with their present operations.

Q. Well, we will ask you, please, to give us your best recollection.

A. Recollection of what?

[fol. 4493] Q. What company is using a finish equivalent to "Duco"?

A. I have no knowledge at the present time. I have no recollection.

Q. I thought you said that there were other companies?

A. I said there were companies using similar ones; but to enumerate the companies I am not in position to do that.

Q. Now, is the "Duco" known as a lacquer finish?

A. Yes, sir.

Q. What does Chrysler use, if it uses any, in the way of a lacquer finish? Whose lacquer finish does it use?

A. I don't know of any lacquer finishes that it uses.

Q. Does it use a lacquer finish?

A. Not that I know of.

Q. Do you know of any company that uses a lacquer finish other than General Motors?

A. Why, I would hesitate to say who is using what at the present time, because I haven't interested myself in that subject, and I am not competent to give testimony on that.

Q. Just give us your best knowledge on the subject.

Mr. Hurd: If the Court please, I object to further examination on this point of the witness, because the witness said several times that he has no knowledge.

The Court: Well, limit it to the present time. He said he has no knowledge at the present time.

By Mr. Harris:

Q. Well, before the present time.

A. Various divisions of General Motors used finishes other than "Duco".

Q. I am not speaking of General Motors, but only automobile companies.

A. I am certain that other automobile companies at different times have used finishes similar to lacquer, and some others have used finishes similar to enamel, but I am not in position to enumerate them, because I don't know at this moment.

[fols. 4494-4499] Q. All right. You know of the firm of Rinshed-Mason?

A. I know of them, yes.

Q. What product do they put out?

A. I know they put out paint finishes and varnishes.

Q. Do they put out lacquer finishes?

A. They have in the past. I am not sure of their product at present.

Q. As to Chrysler, did Chrysler ever use lacquer finishes from Rinshed-Mason?

A. Not that I know of.

Mr. Harris: That is all.

Mr. Hurd: If the Court please, there is no redirect examination.

(Witness excused.)

MAX N. NICKOWITZ, called as a witness on behalf of the Defendants, having been previously duly sworn, resumed the stand and testified as follows:

Cross Examination.

[fol. 4500] Mr. Harsha: Now I would like to show the witness an exhibit which has been marked, perhaps prematurely, by the Government as Exhibit No. 1315.

[fol. 4501] I am not sure, there have been so many lists coming in, counsel, whether you have numbered that for your own use.

If it is agreeable, I will use that number, and if you wish to put it in later under your own number, it is all right with us.

By Mr. Harsha:

Q. Mr. Nickowitz, this is Government's Exhibit for identification No. 1315, and is headed "Fabrics Routine Trade Report."

Is that a type of report which has been used for many years in the Fabrics Division?

A. Yes, sir.

Q. As long as you have been acquainted with sales?

A. Yes, sir.

Q. To whom do these reports go?

A. These reports go to the industry sales managers and our trade analysis section and the correspondents.

You see, we have located in our New York office a group of correspondents who handle interchange of letters between the salesmen and the home office and correspondence between the sales office and the plant. So that the correspondents get a copy of this, and the trade record group, and the industry manager.

Q. Is this trade analysis section—is that what it is?

A. Yes.

Q. Is that a part of the Fabrics Division?

A. It is, sir.

Q. And they take information from these reports, do they?

A. Correct.

Q. Now I note on this document, if you will look at the

small printing up there under the heading "Action needed," on the righthand side, you will notice the number 8, the last paragraph there. It says:

[fol. 4502] "List any changes in consumption or mailing list data that should be made in the Master Trade Report."

What is the master trade report, Mr. Nickowitz?

A. This is a routine trade report that is written by a salesman every time he makes a call on a customer. Once a year, however, they are required to make a master trade report, which is a more complete report than this, but goes to the same people and is used for the same purpose.

Q. Let me see if I understand. The master trade report is prepared by the salesman?

A. By the salesman, yes, sir. It is a report very similar to this except that it covers the salesman's estimate of the customer's consumption and who gets the business—whether we get it, competition, whether we share it. It contains information of that sort.

Q. How long has the master trade report been a type of report maintained in the du Pont Company, to your knowledge?

A. I am not certain about that. Certainly several years.

Q. You became director of sales in 1944. Were they using it then?

A. We have had it since then, and it probably goes back before that period. I am not certain as to the date.

Q. You gave a good deal of testimony on direct concerning the percentages that you enjoyed versus some of your competitors with respect to sales to various, take for example units of General Motors?

A. Yes.

Q. Did you resort to the master trade report for such information to refresh your recollection?

A. Yes. That is a composite of information.

We get information on trade reports. We get information by trade gossip. We attend Rubber Manufacturers Association meetings or Pyroxylin Association meetings, and in the [fol. 4503] course of the meeting one of our competitors might drop a hint as to a piece of business that he got

through the course of that conversation. This is a composite of all that information.

Q. Now I gather, as you have indicated, that there are many sources going to the type of information that is contained in this master trade report?

A. Yes, sir. For example, one other, our customers frequently tell us what percentage of the business we get.

Q. Isn't it true that regardless there may be some sources which you consider perhaps more reliable than others; that is, certain trade rumors and gossip, as you have indicated, and other things which are perhaps much more concrete, namely, what your customers actually told you is the division of business between you and certain other suppliers.

But isn't it true that taken together the information that you obtain from those master trade reports you feel is sufficiently accurate to give you the information as to what percentage du Pont, for example, is supplying to that particular customer?

A. No, that is not so.

Q. Don't you rely upon those?

A. We do, and we go back to them, but it has been my experience over the years that our salesmen invariably overestimate. I don't know. Maybe they try to create the impression that they are doing a much better job than they are doing. But my experience is that they are inclined to overstate what percentage they get rather than understate.

Q. What did you rely upon in your direct testimony for these various percentages which you gave for various customers?

[fol. 4504] A. What I told you. It is a composite of all these things, information that I get that is different from the trade reports.

Q. Now, is there any other type of formal report used in the du Pont organization which deals with this question as to the amount of percentage of business that du Pont is doing with any particular customer?

A. No, sir.

Q. Is it only the master trade report where you find the percentage statement?

A. It may also appear in a routine type of report.

Q. But I gather that is the source of material for the annual master's trade report?

A. No, the master's trade report is made up by the same man.

Q. I see.

A. It is made up by the salesman. We require each salesman to write a master trade report on his accounts once a year.

Q. Now, your trade analysis section, does your trade analysis section maintain any records showing a breakdown of the division of sales between du Pont versus some competitor of a particular user of the material?

A. Yes. You see, these statistics—you do not get as complete statistics on some competitors as you do on others.

For example, some of our competitors have an annual report. Now, when you get their annual report, you get their sales statement, and if our analysis of their trade indicates, as they invariably do, that the competitor is getting less than his annual report shows, that is another confirmation of the thing I am trying to tell you about.

Q. Now, what is the name of the report that the trade analysis section maintains that shows a percentage of business [fol. 4505] done by you and other competitors?

A. They do not maintain any other reports. They prepare this market analysis report that I referred to earlier. The way that report is prepared, they gather the statistics, and then before the report is submitted, it is discussed with each of our industry sales managers—with the manager of our trade analysis section. Beyond that, after they get through with all these preliminary discussions, then Mr. Brown and I get in on it, and we pit our judgment against their judgment, and if we want to make corrections in that report, which are based on our judgment, we make them, because we are responsible for the report.

Q. Now, you testified regarding the amount of sales that the du Pont Company made to the Fisher Body back in the thirties.

Upon what did you base that statement?

A. Upon an analysis of this type.

Q. Based on reports of the nature you have just described?

A. Yes, sir.

Q. Now, what are the Fabric Division sales cards? Can you tell me what sort of report that is?

A. Yes. We have sales cards for each customer in which we report the sales by the plant in yards and dollars, to each customer.

Q. To each customer?

A. Yes, sir.

Q. Have you maintained those records for a number of years?

A. Yes, sir.

Q. Do you know how far back those records go?

A. I do not.

Mr. Harsha: Would you show Mr. Nickowitz du Pont No. 228, please?

[fol. 4506] That is the accordion pleat exhibit. You testified about this exhibit on your direct, about which I have a few questions. Am I correct, from a reading of this chart that there are only two coated fabrics which are used by the automobile manufacturers for auto trim, or auto upholstery, that are produced by the Fabrics Division?

A. Well, no, there are two types. When you say two—

Q. I mean two types, and to be more specific—

A. Well, of course, also "Teal"—

Q. You do not consider that a coated fabric, do you?

A. No, that is a combined fabric.

Q. There is a reference to "Fabrikoid" in the extreme right hand box, and then "Fabrilit." Those are the two items which are used extensively by the automobile manufacturers as an auto trim and covering, is that right?

A. Yes, sir.

Q. "Teal"; how would you describe that, as a combined fabric?

A. That is a combined fabric.

Q. Is that what you mean by combined fabric?

A. Yes, sir.

Q. Do I gather from your testimony that speaking of at least today, I guess what you had reference to is "Fabrilit"; that is the largest seller in the automobile field?

A. Yes, sir.

Q. Now, this "Teal" that you have described, when the du Pont Company first started to make "Teal"—pardon me, strike that question.

There is just one other thing I want to touch upon. We will bring that back in a moment. There is one question I

want to cover on this "Fabrilit" and "Fabrikoid" to make sure that I understand this chart.

I notice that "Fabrilit" is joined by black lines connecting up with both the Newburgh and Fairfield plants.

Am I correct in assuming that "Fabrilit" is made by [fol. 4507] both plants?

A. That is correct.

Q. Is there one plant that makes more "Fabrilit" than the other?

A. That would vary, and currently, the Newburgh plant is making more "Fabrilit" than Fairfield.

Q. Newburgh also makes "Fabrikoid"?

A. Yes, sir.

Q. But not at Fairfield?

A. No, sir.

Q. They do not make "Fabrikoid" at Fairfield?

A. No, sir.

Q. Now, regarding this "Teal", I want to ask you, when did du Pont first start to manufacture "Teal"?

A. I believe it was 1926 or 1927.

Q. In the mid '20's?

A. Yes, sir.

Q. Did they continue to manufacture "Teal" up to the present time?

A. No.

Q. Was there some time when du Pont discontinued the manufacture of "Teal"?

A. Well, we never discontinued it entirely.

Q. Well, I am not trying to be technical with you. I mean, generally speaking, it was not a widely sold item?

A. It was not a widely sold item, that is correct.

Q. Beginning at what period, would you say?

A. Well, about 1930.

Q. Did you sell much "Teal" from say 1930 up to the beginning of the second World War, 1941?

A. No.

Q. You didn't?

A. No.

Q. And then did you sell any "Teal" say immediately after World War II, say in the late 1945 or 1946?

A. I think we sold a small amount.

Q. But not much?

A. No.

Q. Was your production large of "Teal", say, in 1947?

A. Was it as large?

[fol. 4508] Q. No, I say was it large in 1947?

A. Reasonably so.

Q. Isn't it true, though, that in "Teal" you really didn't begin to manufacture the stuff in quantities until along about 1948?

A. That is correct.

Q. Now, to whom have you sold "Teal" in the General Motors units since, say, beginning in 1949?

A. Fisher Body.

Q. Only Fisher Body?

A. Yes. They are the only one that buys it.

Q. None of the other units buy the material?

A. No.

Q. Now, taking your combined sales—by "combined" I mean "Fabrikoid," "Fabrilit" and "Teal"—for say the year, 1948, who was the largest customer in the automobile field of the Fabrics Division?

A. General Motors.

Q. General Motors?

A. Yes.

Q. Approximately how large were their combined purchases of these three items? Would you say around \$3,700,000?

A. Yes, about that.

Q. Who was your next largest customer for these three kinds of materials in the automobile field?

A. Currently, or before?

Q. No, I meant 1947. I think I addressed my first question to that, and I want to take the same time sequence.

A. I just am not certain on that.

Q. Well, about how much did you sell to General Motors, say last year, of these three materials?

A. Our sales to General Motors last year represented about 80 per cent of our automotive sales, and our automotive sales last year were just under \$4,000,000.

Q. So that is it correct then that Ford, Chrysler, and all of the smaller automobile manufacturers and bus manufac-

[fol. 4509]. turers and truck manufacturers account for the other 20 per cent of your automotive sales?

A. That is correct.

Q. Has that been generally true during the years, say, since the end of the war, World War II, say, beginning in 1945?

A. That is approximately right. Of course, you know, I am sure, from the testimony, that Ford manufactured the bulk of their own material, and when you eliminate the top three you only have 12 per cent of the automobiles that are manufactured by others.

So it is very small in relation to General Motors, which has over 40 per cent.

Q. Yes, a very small percentage of the total outlet for du Pont in the automotive field, isn't it?

A. That is correct.

Q. And you said that General Motors is around 40 per cent, approximately, of the automobile field?

A. Yes.

Q. And isn't it true that proportionately, from the standpoint of du Pont sales, General Motors represents even more than 40 per cent since Ford manufactures much of its own requirements?

A. That is correct.

Q. So that taking out that production which Ford manufactures itself—by the way, do you have any idea about how much Ford makes in these fabrics that you produce?

A. Oh, we estimate it—I don't recall that figure.

Q. Would it be a million dollars, do you suppose?

A. I don't recall the figure. I would hesitate to—

Q. Well, in terms of the total outlet available to du Pont for the sale of its fabrics, though, in view of Ford having manufactured the greater portion of its own requirements, would you say that General Motors represents, say, maybe [fol. 4510] half of the automobile field available for sales by du Pont in this field?

A. I would say so, yes.

Q. Now, I believe you testified that you sold relatively little to Chrysler, is that correct, of these fabrics?

A. Currently; of course we have sold Chrysler a lot of material in the past.

Q. When you say "currently" you mean in the last year?

A. Yes.

Q. What has been the situation, say, since the end of World War II, say from the end of 1945 on?

A. Well, we haven't sold them very much since then. We have had opportunity to come in on an emergency basis, but as you recall from my testimony earlier in the day, if you don't gear up, if you are not in at the time, if they don't contract with you at the time they are setting up their models, you just don't provide materials. You don't provide fabrics, and you don't provide grains, and you don't provide the prints, so that we have had to pass up a lot of our opportunities to meet the Chrysler situation.

Q. Dollarwise about what would you say your sales to Chrysler were last year in fabrics?

A. I don't know. I don't recall. I would have to look it up.

Q. Now, is it true that during most of the 1930's du Pont sold very little in the way of fabrics to Chrysler?

A. I don't recall specifically. I am sure we sold them some materials, and I don't recall how much.

Q. Now, I believe you testified—I have not been able to see the transcript on this, so I am not sure of the language that was used, but I got the impression that you were asked whether it was true that du Pont had ever, say, from 1917 on,—beginning with the alleged conspiracy charged in this complaint, whether du Pont had ever sold General Motors [fol. 4511] 100 per cent of its requirements of fabrics? Did you say "No" to that?

A. I don't believe so. I don't know.

Q. Do you know that at one time in the early 20's du Pont in fact did supply General Motors almost 100 per cent of its requirements of fabrics?

A. I don't know that.

Q. You don't know that?

A. No, sir.

Q. Have you ever looked at the old records of that?

A. Well, not with that in mind, I mean, I just have not had occasion to.

Q. What was your position in the Fabrics Division when Mr. Allen was general manager of the Chemical Products Department? Weren't you a part of that department in the early 20's?

A. Yes, sir, he was—

Q. What was your position during the time that he was general manager?

A. Well, he was general manager when I was at Newburgh, and he was general manager when I was at Fairfield as chief chemist.

Q. You were chief chemist then?

A. Yes, and technical superintendent.

Q. And did you ever see Mr. Allen's report at the time you were chief chemist on his visits with people in General Motors?

A. No, sir.

Q. Did you not?

A. No, sir.

Q. And did you ever see his reports made to the Executive Committee of du Pont Company regarding his visits with General Motors people?

A. No, sir.

Q. Now, isn't it true, Mr. Nickowitz, as an expert in this fabrics field, that the changes in automobile design have greatly influenced the field for du Pont in the sale of these [fol. 4512] fabrics over the years?

A. I don't believe I understand the question.

Q. All right, maybe it is too general.

As I understand it, though, you have been working in this field since the early 20's. Were you a chemist back in 1922, along in there, testing these materials?

A. Yes.

Q. I have in mind, for example, the change-over say from the open body to the closed body, from the closed body to the steel top. All those changes affected the quantities of "Fabrikoid" for example, that the du Pont Company sold in the automobile field, didn't it?

A. Yes, sir.

Q. And they had very vital effect upon the quantity sold, didn't they?

A. Yes.

Q. And when they went from "Fabrikoid" top to the steel top, why it eliminated quite a hunk of the market for you, didn't it?

A. Surely, but they didn't go from "Fabrikoid"; they went from rubber.

Q. I am sorry. Perhaps it is "Pontop," is that right?

A. Yes.

Q. Now, I believe you stated on direct that probably one of the most heinous crimes that could be committed by a supplier to the automobile trade was that of failing to have production and supplying the material at the time needed, so that a shut-down in production might occur, and that was the thing above all that was to be avoided by a supplier?

A. That is correct.

Q. Isn't that generally right?

A. Yes.

Q. Isn't it true that that was one of the principal reasons that the Fisher Body people have expressed to you their wish over the years to have more than one source of supply for their fabrics?

A. They never said that to me.

[fol. 4513] Q. They never said that to you?

A. No.

Q. Put it this way: Hasn't Fisher always followed the policy of having several sources of supply in this fabrics field?

A. Insofar as I know, they have.

Q. And have they ever indicated to you whether they were having two sources of supply merely for price reason, in order to check price, or to have an assured source or sources of supply in case one falls down, and the other can step up? Haven't they ever discussed that with you?

A. They never discussed that with me. Of course, they don't always follow that principle, either. After all, they bought combined goods from Haartz, and Haartz was the exclusive supplier on that. It depends on the material. I presume. J. C. Haartz Auto Fabrics were, for many years, their exclusive supplier.

Q. Of what material?

A. Combined.

Q. Of combined goods?

A. Yes.

Q. That is what you call "Teal"?

A. Yes.

Q. Was that during the years when du Pont wasn't making much of "Teal"?

A. Well, we were making some. It was during the period we were making some, too, and selling it to Chrysler.

Q. Back in the early or middle 1920's, you mean?

A. Yes.

Q. But the period during the middle thirties, isn't that when Haartz was exclusive supplier of Fisher?

A. Well, they were for many years and have been for many years of the other automobile companies.

Q. Am I right about the period of the thirties?

A. Yes.

Q. Mr. Nickowitz, looking at this report, Defendants' Exhibit No. DP-310, can you tell me whether this document [fol. 4514] relates to the Chevrolet Passenger Car Division, or is it the Chevrolet Commercial Body Division?

A. Well, I have not read the letter.

Q. I am sorry. Take your time.

A. Yes.

Q. Now, can you tell me which division this refers to?

A. This is Chevrolet Commercial.

Q. This is Chevrolet Commercial body?

A. Yes.

Q. That is the one that makes the light trucks, is that right?

A. Yes.

Q. I believe you testified on direct that du Pont had sold Chevrolet Commercial Body around 30 per cent of its requirements?

A. Correct.

Q. Now, I direct your attention to the fourth paragraph where it states, in the second sentence:

"I am quite sure our percentage is a minimum of 50 with the balance being divided between U. S. and Tex tileather."

Does that affect the answer you gave?

A. I am quite sure this is incorrect.

Q. You are quite sure this is incorrect?

A. Yes. In 1946 we probably got a little bit larger share due to the extreme shortage of textiles, though we didn't get that much.

Q. This is with reference to what material, can you tell?

A. It is upholstery material.

Q. That would be Fabrilite?

A. Yes, sir.

Q. Now, I note that the last paragraph on the first page states:

[fol. 4515] "You will remember that we ran into this multiple source situation during the war years, for a combination of reasons with which you are familiar. During the recent period of scarcity the purchasing agents have been working under instructions to maintain several sources for their own protection, and frankly I do not think we can expect an immediate change in that policy."

Were you acquainted with the reasons referred to here in this next to last sentence about maintaining the several sources of supply?

A. Well, I testified this morning that I was told as early as 1941 that they were going to have several sources of supply, and in all of the years that I have been sales director, and I am very intimately familiar with the Chevrolet Commercial situation, because I go there whenever their contract comes up, and they have had three sources of supply for the grade of material that we supply as far back as I can remember.

Q. Yes. Maybe I didn't make myself clear. The question I wanted to ask you, Mr. Nickowitz, was, do you know what the combination of reasons is for Commercial, for Chevrolet Commercial Body, having several sources of supply?

A. I don't know.

Q. You don't know?

A. No, I have argued against it unsuccessfully. I wish I knew how to get around it.

Q. When you went into the manufacture of "Teal" in a fairly big way—as a matter of fact, you were approached by Fisher, weren't you, sometime in the latter part of 1947?

A. Yes.

Q. To become a second source for Fisher on the production of this "Teal"?

A. Yes, sir.

Q. You had to go to another mill, was that right, to get [fol. 4516] your sources of this material?

A. Well, let me explain that.

Q. Your cotton goods?

A. Let me explain that to you.

The fabrics that are used for "Teal" are not standard commercial fabrics. I mean, you cannot go out and buy this fabric in the open market, so we had to develop a source of supply for a construction that was satisfactory, that is correct.

Q. This is du Pont Exhibit No. 292 for identification, and I would like to direct your attention to that second paragraph which states that the Fisher sport decking is now being supplied by Haartz, Mason—I believe that is—and Grower, who purchased the fabric from Nashua and Fisher which is the second source of supply, because they do not wish to be dependent upon Nashua alone.

Nashua is the mill that produces the fabric, isn't that right?

A. Yes.

Q. And it was necessary for you in the Fabrics Division to approach another mill to supply you with the fabric?

A. It was not necessary for us to. We would buy the fabric wherever we pleased.

Q. No, I do not mean anything invidious about that, but you had to make arrangements to get some mill to supply you if you are going to manufacture "Teal", is that right?

A. That is correct.

Q. Does that take a little while?

A. Yes.

Q. Now, in your dealings with the various units of General Motors, car units, over the years you have been connected with the Fabrics Division, have you been aware of the fact that from time to time the General Motors units have given to the du Pont Company the opportunity of [fol. 4517] meeting competitors' prices on some of these fabrics?

A. No.

Q. That is, if a competitor has submitted a low price, why, the du Pont Company will be given the opportunity to meet that price and get the business?

A. No, we are not given an opportunity to meet any prices because we don't know what competition they are quoting. We get the same kind of reaction from General Motors purchasing agents that we get from purchasing agents generally. Purchasing agents in the natural course of their

duties are trying to buy as cheaply as they know how, and I never heard anyone that we ever dealt with say our prices are too low. They constantly tell us it is too high, and we attempt to find out how much higher it is, if it is high.

You cannot get any specific information on that. You guess at it. And we study our costs, and if we find we need a high price when the contract comes up, we go in and try to get it, and if we find that we can get a lower price—you see, these automotive contracts are large contracts, and we have got to get quotations on the market value at the time the contract comes up, and other raw materials.

Mr. Harsha: Show Mr. Nickowitz Government's Exhibit for identification No. 1316.

By Mr. Harsha:

Q. Mr. Nickowitz, from the Paint, Lacquer, and Chemicals Department reporting to the Executive Committee for July 1925, and I draw your attention to the second paragraph, which states:

“For the first six months of 1925, our Fairfield sales were 27 percent lower than for the first half of 1924; [fol. 4518] This was due entirely to our lack of Chevrolet and Buick business over the first half of this year. This, it will be recalled, we had the opportunity of taking at competitive prices, but refused to take on an unprofitable basis.”

Were you aware of that situation at the time you were with the Fabrics Division?

A. I don't know anything about it. I was not in the sales.

Q. Have you ever heard of this situation in any other circumstances?

A. No, sir.

Q. In selling to General Motors?

A. No, sir.

Q. Now, over the years, isn't it true that speaking generally du Pont has followed the policy in selling its fabrics to the automobile field of undercutting its competitors in price? You don't try to sell it on a lower price than that quoted by any other competitor, do you?

A. Well, we don't know. We go in and we bid based on

our costs. Now, in the automotive industry, we have a different situation than you do in the furniture trade, for example, where you have an established price.

You see, in the automobile industry, each manufacturer uses a different construction. They all have their own peculiar ideas of what they want about these fabrics. Some want dyed backs, and some want different finishes, so you don't have any standard prices in the automobile industry.

Q. You do find out in the course of your dealings what your competitors are selling comparable products for?

A. We try to find out. We get it from the trade reports and things of that type.

[fol. 4519] Q. You are generally pretty well informed, aren't you?

A. I would not say so, no.

Q. You don't mean you don't learn of your competitors' prices until after the contract is awarded?

A. I cannot tell you right now what Fisher Body is paying Textileather for their material.

Mr. Harsha: Will you show Mr. Nickowitz Government's Exhibit No. 1317, please?

By Mr. Harsha:

Q. This is an excerpt, Mr. Nickowitz, from the report of the Fabrikoid—let me read you the first part, then I will let you see the document if you wish.

It is an excerpt from the report of the Fabrikoid Division to the Executive Committee for the month of January, 1927, and it states:

“Many of our competitors show a tendency toward cutting prices. We attribute this condition to the fact that they are generally short of a fair volume of business.”

Now, isn't that the type of information that you commonly obtained, Mr. Nickowitz, in this field?

A. Oh, you get it occasionally, but sometimes it is not reliable.

Q. Well, there is always a chance that somebody makes a mistake, certainly. But it certainly is, you feel, usually sufficiently reliable so that you can rely upon it in the operation of your business, isn't that right?

A. Well, I can't make a general statement like that. We get trade reports that—well, I will give you an example of the sort of thing that I mean.

[fol. 4520] A purchasing agent recently told one of our salesmen that our price was approximately ten per cent high on certain construction.

We checked up on it and we found out that we were supplying the customer with 44 inch material, whereas the competitive product was 40 inch material. We get information of that kind.

Q. I appreciate—

A. So that you have got to be specific. Now, we get—after we lose a contract our salesmen will report that we lost the business. Our price was five per cent high, ten per cent high, or two cents a yard high. That kind of information is the sort of information on which we set our prices.

Q. Now, if you have any doubt as to the reliability of the information that you have received, you don't usually incorporate that information in your monthly report to the Executive Committee of the du Pont Company, do you?

A. Well, I don't know about this report. I couldn't tell you about that. That is way before my time.

Q. I presume you would state the same as regarding examples occurring, say, in 1928? Was that before your time when you were acquainted with these things?

A. Yes, sir.

Q. Now, you mentioned a cement in your direct testimony, which apparently has been used, I gather, by Fisher Body as a weather-stripping material or to attach weather-stripping material, is that correct?

A. Yes, sir.

Q. Do you know when that cement was first made by anyone in the industry?

A. Oh, I don't know when it was first made. I am familiar with the fact that they have used cements of that type for many years. Actually we submitted samples to meet that situation back in, I think it was, 1945.

[fols. 4521-4523] Q.-1945?

A. Yes, when we developed our 5115 "Fairprene" cement.

Q. Do you know when Fisher Body first began using a cement for this weather-stripping process?

A. I don't know.

Q. Was it before you developed your cement in 1945?

A. I believe so.

Q. Was it sometime prior to World War II that you first began using it?

A. I don't know.

Q. Do you know how the price of your cement today compares with that quoted by your competitors to the automobile manufacturers?

A. I don't know. I know what our cement sells for.

Q. Who is the principal supplier of Fisher on this material now?

A. Armstrong Cork.

Q. Does Minnesota Mining sell any of that?

A. They sold some and I think our salesmen report that their cement was found to be inadequate.

Right at the moment I don't think they have what they consider an ideal cement for their purpose.

The Court: The Court will recess for fifteen minutes.

(Recess taken.)

The Court: Proceed, please.

Mr. Harsha: After reflection, your Honor, I have decided there is no further cross examination.

The Court: That happens very frequently after the recess.

Mr. Harsha: Mr. Neitzert has informed me that he has no redirect.

(Witness excused.)

[fol. 4524] AUBREY LEE BROWN, called as a witness on behalf of the Defendants, having been first duly sworn, was examined and testified as follows:

Mr. Neitzert: Mr. Brown, I apologize for saying you are the oldest employee in the Fabrics Sales Department. I meant to say that you have been there the longest.

[fol. 4525] Direct Examination.

By Mr. Neitzert:

Q. Will you state your name and address for the record?

A. Aubrey Lee Brown.

Q. How long have you been assistant to the director of sales of the Fabrics Division, of the Fabrics & Finishes Department of the du Pont Company?

A. Since 1931.

Q. Will you please tell us when you started working for the du Pont Company, and give his Honor the names of the positions that you have had since that time, and briefly state what your duties have been in each one of those positions.

A. I entered the employ of the du Pont Company on August 1, 1917, as a sales correspondent in the Wilmington office, which was the headquarters at that time of the sales office.

As a sales correspondent my duty or duties consisted of corresponding with customers and with the salesmen, keeping the salesmen informed of what was going on in the Wilmington office, and in turn keeping the officials informed on what I was learning from the salesmen.

I continued in that work until early 1919 when I was made sales office manager, taking charge at that time of all of the sales correspondents. They reported to me beginning then, and I was sort of general assistant on anything that was turning up in the Sales Department. That continued until October 5, 1921, when my office was transferred to Wilmington. The entire Sales Department was moved to Wilmington, from Newburgh, New York.

I remained in the same position the rest of that year, and on January 1, 1922, I was made control manager of the Fabrikoid Division.

[fol. 4526] In that position I had charge of all of the accounting and clerical functions of the division which included, of course, orders and invoices and departments handling trade statistics. Also in that position I reported directly to the Division Manager, so that I prepared many statements for him; in fact, I made almost continual analyses of the business for him, and I prepared the drafts of the reports that he made regularly to his superiors.

In October, 1924,—I correct that to May 1, 1924—I was made assistant director of sales of the Fabrics Division. In that position I had charge of all of the activities of the Sales Department under the supervision of the director of sales.

I called on the customers, set prices, and made contracts.

and in general handled the full sales activities, subject, as I say, to the supervision of the director of sales.

Six months later, in October, 1924, I was moved back to Wilmington as control manager of the Cellulose Products Department and continued in that position for six months.

On March 1, 1925, I returned to Newburgh as assistant director of sales. I continued until 1930. My title was changed to Assistant Sales Manager, and in 1931, to Assistant to the Director of Sales, which has remained until the present.

For a period there ending in about April, 1933, we had a separate automotive sales manager who reported to me, and at that time, in April, 1933, I took over his duties in addition to those I had previously handled, so that since March, 1925 I have been the staff assistant in the Sales [fol. 4527] Department handling contracts, orders, and making prices, signing those contracts, calling on trade, all in collaboration with and subject to the supervision of Director of Sales.

Q. Your responsibility has been particularly in the automotive field?

A. It has been particularly with reference to automotive products.

Q. I want to go back, Mr. Brown, to August 1, 1917, when you first came with the fabrics sales department, and try to reconstruct the situation as it existed at that time, the best we can.

First, tell us what kind of coated fabrics were manufactured by the du Pont Company when you went there, and where they were manufactured, and to whom they were sold?

A. In 1917 there were two plants in the Fabrikoid Division. The Newburgh, New York plant manufactured pyroxylin coated fabrics, single texture and double texture. Those products were sold in many industries. I would say thirty percent, approximately, went to the automotive industry. The balance went to the bookbinding accounts, furniture, luggage cases, railroad upholstery jobbers.

At the Fairfield plant we manufactured a single texture rubber coated product which was generally known in the trade as Ford rubber, perhaps 60 or 65 percent of the output of that plant went to the Ford Motor Company at that

time. The balance went to carriages, and I recall we were selling Buick Motor Company, for instance, 1,000 yards a day during part of that period for special uses for them. Practically all of the output went either to the automotive industry or to the carriage trade.

Q. You referred to this sale of 1,000 yards of Ford rubber per day to the Buick Company. Were you also selling to other General Motors Companies and divisions in 1917?

[fol. 4528] Let's take pyroxylin coated fabrics, first. What was the situation with respect to the sales of pyroxylin coated fabrics sent to the General Motors Companies and divisions?

A. In 1917, when I was starting in with the company, we were selling pyroxylin coated fabrics then to most of the General Motors Companies. In order of the importance of sales, I would say they were Buick, Chevrolet, Oldsmobile, Cadillac, Oakland and General Motors Truck.

Q. Were any of these companies buying their entire requirements of pyroxylin coated fabrics from du Pont?

A. Chevrolet and Cadillac bought all or substantially all of their materials from the Newburgh plant at that time.

Q. What about the rest of them? Did they have a substantial part of their requirements from the Newburgh plant?

A. They had a smaller portion. None of the others bought, I would say, more than half. They bought from a half to a third, the other units that I have named.

Q. At any time after 1917 when you came with the du Pont Company, was the Fabrics Division ever able to sell the General Motors Companies or divisions a greater percentage of their requirements of pyroxylin coated fabrics than was the case in 1917 when you came there?

A. Not until the year 1922. We, of course, endeavored to sell all we could at each time there was an opportunity, but we didn't increase our percentage until 1922.

Q. I am going to ask you some questions about what happened in 1922 in just a moment, but before I do that, what about sales of rubber coated fabrics to the General Motors Companies in 1917, other than the sales to Buick that you have referred to?

A. We were not selling any other rubber coated fabrics

[fol. 4529] that I can recall. If we were, it was a very, very small amount at that time to General Motors units.

Q. Were you working on a new type or kind of rubber coated fabric at that time?

A. Yes, we were. The company purchased that plant in 1916, and as I stated, most of the production was going to Ford Motor Company.

It was a fairly inexpensive product. It was realized it was not very sound to have so much of the sales going to one spot, so developments were started both in the Fairfield laboratory and in the Experimental Station in Wilmington looking forward to producing a top material that could be sold to the higher priced trade.

Q. Did that later become known as Pontop when it was developed?

A. Later known as Pontop.

Q. Before we talk about Pontop let's pick up what happened in 1922. What were the events leading up to the occasion for selling a greater percentage of the requirements of General Motors Companies in 1922 than previously thereto?

A. In 1920 and 1921 there was quite a severe depression in the United States, an economic depression, and automobile sales dropped off very, very sharply in 1920.

As a result, General Motors units, some of them, found themselves very heavily loaded with inventories. We had very substantial contracts with them at the time, and they help up shipments, and later requested cancellation of those contracts.

We were not able to accept cancellations because in order to take care of a contract we had committed ourselves for the necessary grey goods and other raw materials, and we were unable to cancel with our suppliers.

[fol. 4530] So we made an arrangement with General Motors under which they were to pay a portion of the losses, of the inventory losses.

Before that arrangement was actually consummated, however, they asked that it be re-opened and re-negotiated.

That was done, and it wasn't until early 1922 that final settlement of those contracts was made.

Q. What was the settlement?

A. In the case of Chevrolet, they agreed to take out their

commitments with deferred deliveries, which were satisfactory to us.

In the case of Buick, Oakland and Olds, we agreed to cancel the contracts in return for their commitments to purchase their requirements, their entire requirements, from us in 1922, of the different products that we were able to supply to them.

Q. That was fabrics requirements, not requirements of other products?

A. Of our division's requirements, yes.

Q. Did they do that?

A. Yes, they did. That was the arrangement, and as a result in 1922 we had a larger percentage of that business than we had had at any other time.

Buick, however, was using an uncoated combined material on a substantial number of their tops. We were not making that product at the time, so we didn't get that business.

Q. Following the expiration of those 1922 contracts, did Buick, Olds and Oakland continue to buy all their requirements of the type of fabrics that du Pont manufactured from du Pont?

A. No. In 1923 they more or less reverted to their previous custom of giving us a portion of their business.

[fol. 4531] Q. What happened to Chevrolet and Cadillac during this period? Did they continue to buy substantially all their requirements from du Pont?

A. Chevrolet, we continued all of their requirements through 1921.

Q. That is as far as I wanted to go. The same was true of Cadillac?

A. Cadillac, yes.

Q. Were there some General Motors' companies or divisions that did not buy their requirements of coated fabrics from du Pont during this period?

A. Yes, there were. We had not sold anything to Scripps Booth Company who manufactured the Scripps-Booth car. We sold very little, if any, to Sheridan Motor Company who were making the Sheridan car. I recall we had one contract with them, but I don't remember whether we delivered against it or not. It is the only one I remember with them.

Fisher Body Corporation, we were selling very little, if

any. I don't recall we were selling any at that early stage in 1917. It was about 1922 when we had our first substantial order from them, although that was a very small part of their requirements.

Q. More specifically with reference to Chevrolet, what kinds of fabrics did Chevrolet buy from du Pont during this period from 1917 to 1922?

A. Chevrolet bought "Fabrikoid" for upholstery and trim for their open cars. They also bought their top material from us in 1917. That was a combined mohair product.

In 1917 we had decided to liquidate our mohair business. We didn't like this product. We felt that we had a superior product in our "Rayntite" double texture pyroxylin top material. Of course, we also had the rubber type at Fairfield. [fol. 4532] We attempted to sell Chevrolet to get them to change from mohair to "Rayntite," but they weren't prepared to do it. At the time we gave up mohair towards the end of 1917 we lost some Chevrolet business that year, and quite a lot of the Chevrolet top business in 1918.

They continued with mohair, which they bought from the Barrell Company of New York. In addition, they were testing such other materials as were available, and one of those that became available and later was available in 1918, was our Fairfield "Pontop," our new item.

Chevrolet was first offered "Pontop" by us in the sampling stage early in 1918, and they were quite pleased with it. About the middle of the year they were ready in fact to negotiate a contract, and we did write a contract for them for whatever requirements or whatever portion of their requirements we could fill during 1918. We didn't get into full production on the material until 1919.

Mr. Neitzert: Your Honor, I offer in evidence Defendants' Exhibit DP-243, which is the first exhibit in your book.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 243.)

Mr. Neitzert: This is a letter from Mr. Kniffen to Mr. J. A. Haskell, dated May 15, 1918.

For the present, I call attention only to the last sentence appearing on the first page of the exhibit, which is related

to what the witness has been covering in his testimony. That sentence is as follows:

[fol. 4533] "For several years Chevrolet has used no leather substitute for upholstery, other than Fabrikoid."

By Mr. Neitzert:

Q. Mr. Brown, this pyroxylin coated material you said was bought by Chevrolet exclusively from du Pont.

A. Yes, sir.

Mr. Neitzert: I also refer your Honor to Government's Exhibit No. 297, Trial Exhibit No. 297, which would be the second document in your book, and to the last page of that exhibit.

I call your attention to the large yardage purchases shown there to have been made from the Barrell Company.

By Mr. Neitzert:

Q. Are those the mohair purchases that were temporarily made from the Barrell Company when you attempted to discontinue the manufacture of the pyroxylin-coated "Rayn-tite" material?

A. They are.

Q. Now, would you just start and tell us about the work that had been done on "Pontop," and Chevrolet's adoption of "Pontop"? How did "Pontop" differ from other types of materials that were available to the trade in 1918?

A. The "Pontop" was an entirely different compound. It was much more durable to outdoor exposure and use, and the appearance was quite improved over our old Ford rubber type.

Q. Did you distribute samples of "Pontop" to other automobile manufacturers in addition to the General Motors Company during 1918?

A. Oh, yes, the product was widely circularized, and the salesmen presented it on the regular calls on all the automobile manufacturers they were calling on.

[fol. 4534] Q. What was the response of the automobile trade to "Pontop"?

A. It was very excellent. Our tests, information had been

supplied to our salesmen and those tests indicated it was far superior to any other product that was then being offered.

The only thing that compared at all favorably was a product made by Hodgman Rubber Company. We felt that we were at least equal to Hodgman, and our price was lower than their price, so we were in a quite favorable position, and evidently the trade thought that because we had many inquiries, and supplied many test samples during that period.

Q. What are the names of some of the automobile manufacturers that adopted "Pontop" decking when it became available?

A. Several of the General Motors' units, Buick, Oakland, Olds and Chevrolet, all adopted "Pontop" during this period, and Cadillac a little bit later. They came in in 1920.

Hupmobile, Marmon, Reo; they are the ones I think of. Of course, Ford and Willys-Overland were the big ones outside of the GM units.

Q. Metz?

A. Metz adopted it at that time. I would say that most of the companies that we showed the materials to that were in the market would be buying from us if we were able to sell it. We did not have too much capacity.

Q. Did the introduction of "Pontop" increase your sales of top materials to General Motors' units as distinguished from pyroxylin coated upholstery? Did it result in increased sales to the General Motors Company?

A. Not necessarily, because "Pontop" was a replacement [fol. 4533] of other top materials that we had sold to General Motors' units earlier.

Mr. Neitzert: Your Honor, I offer in evidence at this time Exhibit DP 244, which is an excerpt from the report of the du Pont Fabrikoid Company to C. W. Phellis, General Director of Sales for the month of November, 1919. It is dated January 2nd, 1920.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 244.)

Mr. Neitzert: This reads as follows:

"Our capacity at Fairfield is sold up. We are, therefore, making no quotations, although we did accept an additional order from Chevrolet Motor Company for

150,000 yards of Double Texture Rubber at current prices."

Reference is there being made to "Pontop"?

A. Yes, sir.

Mr. Neitzert: (Reading):

"Indications for the year 1920 point to very good business in all lines. Fairfield Plant is now sold to capacity until June 30th, and a great deal of business is being offered to us which we are not in a position to accept."

By Mr. Neitzert:

Q. Where was "Pontop" manufactured?

A. Fairfield, Connecticut.

Mr. Neitzert: I also offer in evidence Exhibit No. DP 245, which is an excerpt from the report of the du Pont Fabrikoid Company to F. W. Pickard for the month of March, 1919, dated May 8, 1919.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 245.)

By Mr. Neitzert:

Q. Mr. Brown, what position did Mr. F. W. Pickard hold with the du Pont Company in March of 1919?

A. Mr. Pickard was vice-president in charge of sales.

Mr. Neitzert: I will read only about half of this exhibit:

"Sales are gradually improving. In the case of Fairfield, the Plant is working as rapidly as possible to a capacity basis, but we have given them enough orders to warrant this. The present capacity of the Plant has been sold from July 1 to the end of the year. It should be noted that while heretofore practically all of the Fairfield material sold was of a Rubber Drill for Ford Motor Company, the sales we have recently made are of the high grade top material."

By Mr. Neitzert:

Q. Is reference there made to "Pontop"?

A. Yes, sir.

Mr. Neitzert: (Reading):

"and while the capacity of the Plant has been sold, we have no orders from Ford Motor Company."

By Mr. Neitzert:

Q. Did you later sell Ford some "Pontop"?

A. Yes; we sold Ford "Pontop" in the latter part of 1919. [fol. 4537] Q. What were the circumstances that accounted for your not having received those orders from Ford in March of 1919?

A. We had discontinued the product we had been selling for quite a period. It was a cheap product, and Ford was not quite ready to jump into "Pontop," so they tried other materials for a time.

In the meantime, they were testing "Pontop," and by the middle of 1919, or shortly thereafter, they started to purchase single texture "Pontop".

Mr. Neitzert: Also, as further evidence of the development of the business of Fairfield, I offer in evidence DP Exhibit No. 246, which is an undated memorandum captioned, "Buick Motor Company."

Reference will be made to this exhibit at a later date. There is one short paragraph I wish to read now.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 246.)

By Mr. Neitzert:

Q. Can you state during what years the events referred to in DP Exhibit No. 246 occurred?

A. 1918.

Mr. Neitzert: The only part of the memorandum I wish to refer to now, your Honor, is at the bottom of page 2, and is as follows:

"June 25, Stark wired——"

Who was Stark?

A. Stark was Mr. J. W. Stark; he was manager of the Detroit office.

[fol. 4538] Mr. Neitzert: (Reading):

"—that Chevrolet had closed for all available top and curtain rubber material, and we had nothing in sight at present for Buick"—

Is reference here made to "Pontop" in that sentence?

A. Yes, sir.

Mr. Neitzert: (Reading):

"—but that we would accept 21,600 yards of 4000 quality combined to 700 sheeting per arrangement with Wade,"—

Wade was the Buick buyer?

A. Yes, sir.

Mr. Neitzert: (Reading):

"—provided it was accepted by close of business Saturday. (Buick had sent us a contract for 53,000 yards of this material which they wanted to take up to July 1, 1919. We were not in a position to offer them that quantity, but decided to negotiate on 21,600 yards)."

By ~~Mr.~~ Neitzert:

Q. Now, at the time that Buick and Chevrolet were attempting to buy "Pontop," were any of the other General Motors divisions evidencing any interest in "Pontop"?

A. Yes, sir, they were; Oakland, Oldsmobile and Cadillac had all expressed a very definite interest in it.

Q. Did you later sell them large amounts?

A. Yes, we later sold all of them.

Q. Now, did you have any conversation with anyone in the production department of the Fabrics Division about [fol. 4539] that time concerning the interest of General Motors Companies in "Pontop," and the interest of other companies in "Pontop"?

A. Yes, sir, we kept them—I had daily contact with Mr. Kniffen who was head of the production department, and his assistant, keeping them posted of the trend, so they could provide the necessary material and so on, and prepare for

what was going to be offered, and for a large production of the new "Pontop".

Q. Do you recall what you told Mr. Kniffen or anyone in the production department about what percentage of General Motors business in the top materials was of the "Pontop" material?

Mr. Harsha: I object to that question. It is leading terrifically.

The Court: Sustained.

Mr. Neitzert: Very well.

Your Honor, I call attention to Government's Trial Exhibit No. 302, which is a letter from F. Kniffen to J. A. Haskell, and I particularly call your attention to the first paragraph which reads:

"If we are ultimately to furnish all, or the greater part, of the top material for the Chevrolet and General Motors cars would it not be well for these several users to agree upon a uniform shade of drab for the back, or lining?"

Q. Did you have any conversation with Mr. Kniffen about any of the matters referred to in that paragraph, about this time?

A. Yes, I did.

[fol. 4540] Q. What were they?

A. I told him, as I said before, that from the inquiries we were getting, the type of inquiries, I felt that we were going to sell all of the General Motors their top material requirements. That is about the way the General Motors units' expression to us was, they were so pleased with this product that we could expect their business, and I informed Mr. Kniffen of that so he could prepare for it.

Q. Was that situation peculiar to the General Motors Companies or was that—

A. No, we had many other inquiries, and as I say, I was in daily contact. They were right down—right across the hall from me in Wilmington.

Q. Now, reference is made in this exhibit to uniform shade of drab for the back or linings.

Do you know whether the production department was having any difficulty with uniformity or shade of the top material for linings before this letter was written?

A. Oh, yes, we had in the beginning of 1916 and 1917—we had a real serious time with some of our customers, particularly Oakland and Olds because they complained of the non-uniformity of the backing that we were supplying to them. It was really quite a serious thing because when they made a top, you had to have the quarters and the top itself, and those parts had to be sewed together, so that in the inside, of course, it looked like a continuous piece, but if the colors were different on the quarters from the top, why, it was like having two parts of your suit sewed together that didn't have the same color. It was just very unattractive.

What happened, of course, was that due to the British blockade, the German dyes were not reaching this country. There was an extreme shortage here, and you couldn't buy enough dye stuff in one spot to carry the inventory. As a [fol. 4541] result, we were buying wherever we could, and we just were not able to make a uniform shade.

Q. Do you know whether or not being able to limit the number of shades simplified production problems and dyeing problems?

A. Oh, yes, the fewer the shades, of course the greater production you get from the dyeing house, and it would have some effect on lower costs.

Q. At this time did you know of any agreement or understanding between General Motors Companies and du Pont, or between the officials of those companies, that du Pont would furnish the greater part of the top material for Chevrolet and General Motors' cars?

A. No.

Q. Did you ever see or hear of any agreement or understanding that du Pont would supply all or the greater part of the requirements of Chevrolet and General Motors companies of any kind of coated fabrics?

A. I did not.

Q. Were you ever led to believe, told or led to believe, that General Motors would favor du Pont in purchasing its artificial leather and top materials?

A. No, sir.

Q. Now, did you sell any product to Chevrolet other than coated fabrics in these early days?

A. Well, I recall in 1920 we sold them coated panel boards.

Q. Tell us about that.

A. They approached us in the spring of 1920, telling us that in their opinion they were paying considerably too much for their panel boards from the panel board manufacturers, and asked us to see if we could develop a cheaper method of coating these boards, and we undertook to do that, and we were successful.

We found that by modifying our coating equipment, adding certain additional parts, that we could coat the board directly, and we did that, and as I recall it, our price was [fol. 4542] almost cut in half, the price they had been paying, that is, and we had that business all through that year.

Q. What happened then?

A. Well, by the end of the time the next model rolled around, the panel board boys had gotten their price down to compete with ours, and the business was placed with them again. We lost it.

Q. Now, what were your sales of coated and combined fabrics to the Chevrolet Motor Car Company during the 20's?

A. Coated and combined?

Q. Yes. Start with coated, first. Did you continue to supply Chevrolet with the coated?

A. Yes, we continued to supply Chevrolet through 1921, and on the "Fabrikoid" end, the upholstery and interior trim, we continued with all of that business without much of a problem.

The rubber coated business, however, the top material, we were not nearly as successful, not nearly so successful; in fact, between 1922 and 1925 we lost very large quantities of it. Sometimes we would get a contract and sometimes we wouldn't, but they bought a great deal from competition.

In that period rubber prices were being quoted by competition on products that we considered as definitely inferior to our product, but were very low, and Chevrolet was attracted by the low prices and placed considerable business with these competitors.

I recall that about 1925, I guess it was, we had none of their top business in the fore part of the year. We noticed from trade reports that they were having some difficulty with the products they were buying, and our Detroit salesman, Mr. C. E. McShane, talked to me in May of 1925 on the telephone, and told me that he had just had a session

with Mr. Donald O'Keefe who was the purchasing agent, general purchasing agent of Chevrolet.

[fol. 4543] Mr. O'Keefe told him that they were in real difficulty, that the competitive top material that was then on the line was not proving strong enough, and in applying the tops quite a number of them were being torn because of weak tensile or weak tearing strength.

I asked Mr. McShane if we could get a carload out pretty quickly, for that was the question Pete (McShane) asked me. Well, I checked and found that we could get one out within two or three days, and Mr. O'Keefe gave us a confirming order. We supplied that carload, and later in that month he gave us a contract for their entire requirements of top material for three months beginning July—July, August and September.

Just about the time that the contract reached the office, the latter part of May, Mr. O'Keefe asked if we could start it in June rather than July, although they had contracts, of course, with competition for that month.

We did start in June and shipped substantial quantities in that month. As far as I remember we never lost any of their coated top material after that. Mr. O'Keefe stated that he had finally decided that although the tops might cost him a little more on our material, that it would be cheaper for him in the long run to use it.

Q. This man you refer to as Pete, is he also the same man you referred to as McShane?

A. Yes, C. E. McShane. Charles E. McShane.

Mr. Neitzert: Your Honor, I refer to Government's Trial Exhibit No. 411, which is an excerpt from a report of the Cellulose Products Department, and to the third paragraph:

[fol. 4544] "We find that 25% of Chevrolet's rubber business for July, August and September (some 96,000 yards) was placed with O'Bannon at 40¢ for July and 42½¢ for the balance. Our price since April 1st has been 55.6¢."

By Mr. Neitzert:

Q. Your price of 55.6 cents was for what kind of material?

A. Our "Pontop" product.

Q. Is that the same kind of material that Chevrolet was buying from O'Bannon?

A. No, the O'Bannon product was more the type of our former Ford rubber product. It was entirely different from "Pontop".

Mr. Neitzert: I also call your Honor's attention to Government's Exhibit No. 407, which is a letter from Vice-President Coyne to Mr. P. S. du Pont, dated July 18, 1923.

The first paragraph of that letter is as follows:

"At our Directors of Sales meeting July 17th, in Wilmington, statement was made that for the last six months of 1923 we lost 25% of the Chevrolet top business, our price and quality being admittedly as good as our competitors."

By Mr. Neitzert:

Q. Is it your recollection that the quality of "Pontop" was as good as that of your competitors?

A. Oh, yes, no question about that. It was far superior.

Mr. Neitzert: I also offer in evidence, your Honor, du Pont Exhibit No. 248, which is an excerpt from a report of the Cellulose Products Department to the Executive Committee, dated November 23, 1923.

[fol. 4545] (Said document, so offered and received in evidence, was marked du Pont Exhibit No. 248.)

Mr. Neitzert: This reads as follows:

"The Committee is already acquainted in detail with the developments at Chevrolet resulting in the loss of 2,000,000 yards of Fairfield rubber over the first six months of 1924, and the writing of a contract with them for an estimated 1,000,000 yards of FABRIKOID over the same period on a requirements basis."

I also call your Honor's attention to Government Trial Exhibit No. 454, a report to the Executive Committee of the du Pont Company, dated July 24, 1925.

The last paragraph at the bottom of page 8 is as follows:

"Fairfield's June billings show an increase of 60% over May and 10% over forecast. This is principally due to the Chevrolet contract, which was supposed to

cover July, August and September, but under which a considerable volume of releases was given us in June."

By Mr. Neitzert:

Q. Are those the releases that you referred to that were made by Chevrolet when they got in trouble with the competitors' products?

A. They were, yes, sir.

Q. (Reading):

"For the first six months of 1925, our Fairfield sales were 27% lower than for the first half of 1924. This was due entirely to our lack of the Chevrolet and Buick business over the first half of this year. This, it [fol. 4546] will be recalled, we had the opportunity of taking at competitive prices, but refused to book on an unprofitable basis. Against the loss of volume and consequent impairment of current profits resulting from this refusal, we feel there is a substantial offset in the form of a somewhat improved general tone of the market in which we must operate."

What sales of uncoated fabrics did the du Pont Company make to the Chevrolet Motor Company during the 20's?

A. We made no sales of uncoated fabrics to Chevrolet until about 1927.

Q. What did they start buying then?

A. They then started to buy a product which we call "Teal".

Q. From what source had Chevrolet been buying its requirements of uncoated fabrics prior to 1927?

A. From the Haartz Company.

Q. What percentage of the business did you have after 1927?

A. After 1927 we had, as I recall, fairly small orders until 1929 or 1930. Chevrolet were making quite a large number of sport cars on which they were using the Teal type of product.

They were open cars, the same as the others, but on the sport cars they would maybe put two or three extra stripes on them and a little better top material, and perhaps a little more nickel. That type of car was quite popular.

They used "Pontop" on the balance of the open cars, and the "Teal" type product on the sport cars. About 1929—of course, the percentage changed from year to year, but by 1929 about half of the cars were going into the "Teal" type of product.

[fol. 4547] We didn't get any of that business at that time but in 1930 Chevrolet abandoned the coated product and put everything into the uncoated, and at that time we did get a substantial portion—I would say at least 50 per cent, perhaps somewhat more.

Q. During these years did you attempt to sell Chevrolet its requirements of uncoated fabrics?

A. Yes, we did.

Q. Do you recall any other product that was sold by the Fabrics Division to Chevrolet other than panel board and these coated and uncoated fabrics that were used for top, upholstery and interior trim?

A. I recall that they used a considerable quantity of winterfront material, and we tried to get them, of course, to specify our product.

I remember one year they did. I don't recall that they did that more than one year. But about 1936 I recall they particularly liked a product that we had at that time and did specify it.

Q. What was winterfront material?

A. Winterfront was a coated fabric that was attached to the grill in front of the radiator and was used in cold weather, and it would reduce the amount of cold air that could get against the radiator. This helped to prevent freezing.

Q. Did you try to get Chevrolet over the years to specify your materials for this purpose?

A. Yes. That was part of our regular sales program.

Mr. Neitzert: I offer in evidence DP Exhibit No. 249, which is a letter from A. L. Brown to T. A. Nalle.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 249.)

[fol. 4548] By Mr. Neitzert:

Q. Who was T. A. Nalle at that time?

A. Mr. Nalle was our Detroit sales representative.

Q. This letter is dated July 15, 1936, and the first paragraph is as follows:

"It is certainly fine news to note in your pen and ink memorandum that Chevrolet has selected 2200-LBC Aluminum for their winter fronts on the new models."

Was that the type of cloth you were offering for that purpose?

A. Yes, sir.

Q. (Reading):

"Congratulations on this accomplishment. Last year you will recall competitive rubber was used."

Do you recall whether you ever got the business again after 1936?

A. No substantial amount. That is my recollection of it.

Mr. Neitzert: Now, your Honor, I direct your attention to DP-250, which is a chart showing dollar sales of coated and combined fabrics by the du Pont Company to Chevrolet Motor Company for the years 1922 to 1935.

Except for the year 1922, all sales figures in the columns that are captioned "Newburgh Sales," "Fairfield Sales," and "Total du Pont Sales," have been taken from the Fabrics Division sales cards which are du Pont departmental records.

You will recall reference was made in cross examination to those cards yesterday. I have the Chevrolet card from which this material was taken in my hand here, a photostatic copy of it.

[fol. 4549] These figures show the dollar sales of Newburgh and Fairfield products sold to the Chevrolet Company for each of the years indicated, and then in the third column, under Total du Pont Sales, the total sales of both factories.

The column that is headed "Open Cars Manufactured" contains data which we obtained from the General Motors Corporation production records which have been supplied to us by General Motors Company.

The last three columns contain computed figures. They

show the Newburgh sales per car manufactured and the Fairfield sales per car manufactured and the total fabric sales per car manufactured. They are arrived at merely by dividing the number of cars manufactured into sales.

The figures opposite the year 1922, as indicated by the footnote, are from General Motors Exhibit No. 151. I believe a copy of that exhibit is in your Honor's book.

You will recall that that is an exhibit which showed outside purchases—by that is meant purchases outside the General Motors group of companies. This is for 1922 by the Car and Truck Divisions.

One of the items is imitation leather. Another item is top materials in this exhibit.

Now for purposes of comparison, and also because it coincides with the locations of the plants where we manufacture those materials, we have placed total purchases of Chevrolet as shown by the General Motors exhibit for artificial leather under Newburgh sales, 1922, and total purchases of top materials, as shown by the General Motors exhibit, under Fairfield sales for 1922.

We have added them together and put them in total sales, which is the fourth column, and the other columns are prepared in the same manner.

[fol. 4550] Our sales card does not show our sales for 1922. The first year that we have any information for is the year 1923.

By Mr. Neitzert:

Q. What part of this exhibit did you have anything to do with preparing, Mr. Brown?

A. I gave you the notes beginning with Note No. 3, Notes 3 to 8. I had nothing to do with the balance of it.

Mr. Neitzert: That question explains why I am testifying rather than asking the witness, because this was prepared under my supervision from figures available to the government and can be checked.

This shows all of the sales to Chevrolet during the year 1922, all the purchases by Chevrolet during the year 1922 were purchases from du Pont except for the small purchases that are referred to by Government Trial Exhibit No. 441, which we have already referred to here this morning.

I have shown in footnote 2 that all of the sales under the

captain "Fairfield" were not made by the Fairfield factory. I have indicated in the footnote that purchases from O'Bannon amounted to \$37,500.00 but I can't find the document from which I got that figure.

Reference to Government Exhibit No. 411 would indicate that the purchases from O'Bannon by Chevrolet have been more nearly in the neighborhood of \$40,000.00, a difference of nearly \$2,500.00. But I think I will find the exhibit which is the source of my figure before we get through here.

Now, I call your Honor's attention particularly to the column at the very righthand side of the page, which shows the total purchases per car manufactured.

You will observe that in 1922 Chevrolet purchased \$9.71 worth of fabrics per car manufactured.

[fol. 4551] Our sales cards are not complete for 1923. However, you will observe by looking at the Newburgh column that our sales cards show practically the same purchases of artificial leather per car manufactured in 1923 as in 1922. There is very little difference.

In 1924 there is a very great drop in the purchases of Newburgh materials per car manufactured.

By Mr. Neitzert:

Q. What is the explanation of that, Mr. Brown?

A. The only explanation I can give is that the open car production in 1923 was 266,000 cars. It was only 156,000 the next year.

I think probably that they had accumulated pretty heavy inventories, and part of the 1924 production was reducing the inventory.

Mr. Neitzert: If your Honor will refer to the Fairfield sales column, you will see the effect of the occasions when Chevrolet went outside of the du Pont Company for the purchase of its top materials.

As the footnote shows and as the witness has testified, the large quantities of top materials were purchased elsewhere in 1924 and 1925, and there was a great reduction in the dollars of top materials purchased by Chevrolet per car from du Pont Company as shown by that table.

By Mr. Neitzert:

Q. Now, Mr. Brown, in 1929, there appears to be again a decrease in the amount of top materials purchased from du Pont. What is the explanation of that?

A. That is a year that they had gotten up to one-half, at least a half of the use of uncoated materials for tops, and we didn't get any of it in 1929.

[fol. 4552] Q. Then there was a great increase in 1930. What is the explanation of that?

A. There we started to cut in on the uncoated material.

Q. That is when you started selling "Teal"?

A. Yes.

Q. Is "Teal" a more expensive material per yard than the coated top materials?

A. Yes, it was much more expensive.

The Court: The Court will recess for fifteen minutes.

(Recess taken.)

The Court: You may proceed:

By Mr. Neitzert:

Q. Mr. Brown, what kind of automobile bodies did the Chevrolet Motor Company manufacture during this period in the twenties?

A. Open bodies.

Q. Who built Chevrolet's closed bodies?

A. Fisher Body Corporation.

Q. When did Chevrolet discontinue the manufacture of open bodies?

A. Either 1933 or 1934.

Mr. Neitzert: Your Honor, I offer in evidence DP Exhibit No. 250.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 250.)

Mr. Neitzert: I also offer in evidence DP Exhibit No. 322, which is the next exhibit in your book, I believe, which shows the list prices of 6200 grade of 50 inch "Fabrikoid" during this period.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 322.)

[fol. 4553] By Mr. Neitzert:

Q. Mr. Brown, do you have records of the prices of any other coated fabrics used by the Chevrolet during this period?

A. We have no price list of the top material at that time.

Q. What did Chevrolet use the 6200 50 inch "Fabrikoid" for?

A. For trim.

Mr. Neitzert: Your Honor will note there is very little change in the price of this material.

By Mr. Neitzert:

Q. Would the range of price of this material be a fair measure of the range of price of other types of imitation leather?

A. Yes, sir, the price range would be representative of what happened in the pyroxylin coated fabric field. It also applied to the top material, insofar as fabrics were concerned. The top material price fluctuated much more than the trim material, because the nitrocellulose and items used in pyroxylin were fairly stable in price, whereas the rubber fluctuated.

Mr. Neitzert: I offer in evidence du Pont Exhibit No. 323, which is a chart showing the yardage purchases by the Chevrolet Motor Company from the du Pont Company over the same period.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 323.)

By Mr. Neitzert:

Q. After Chevrolet discontinued the manufacture of open bodies, did it have occasion to make any further purchases [fol. 4554] of coated fabrics or combined fabrics?

A. No, sir.

Q. Now, I want to take up the history of the sales to the Buick Motor Company during the same period we have covered with Chevrolet. What was the situation with respect to the sales of coated fabrics to Buick when you became associated with the du Pont Fabrikoid Company in 1917?

A. In 1917, Buick was buying approximately one-half of their requirements of Fabrikoid for trim and of their top material from us. They used natural leather for upholstery.

Q. You have referred to the few yards purchased from the Ford Rubber. What was that being used for, if you know?

A. My recollection is that they used that to make top boots. It was a gadget when the top would collapse they would slip over to hold it in shape.

Mr. Neitzert: I offer in evidence du Pont Exhibit No. 251, which is a letter dated July 23, 1918, to Mr. Haskell from Mr. Chrysler which purports to show the purchases from du Pont by the Buick Company in 1917.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 251.)

Mr. Neitzert: I will read a portion of the letter:

"In answer to your favor of the 5th instant concerning artificial leather furnished by du Pont Company, would advise that the amount of this material used by us in cars assembled in 1917 was as follows:

"50 inch imitation leather; D Models, 16,188 yards; E Models, 140,025 yards; total, 256,213 yards.

[fol. 4555] "36 inch Rayntite: D Models, 133,778 yards; E Models, 63,516 yards; total, 197,294 yards.

"54 inch Rayntite: D Models, 165,270 yards; E Models, none; Total, 165,270 yards.

"54 inch Dreadnaught: D Models, none; E Models, 65,975 yards; total, 65,975 yards.

"Grand Total: 679,752 yards."

By Mr. Neitzert:

Q. Did the du Pont Company in fact manufacture Dreadnaught in 1917?

A. No, Dreadnaught was a trade name of the top material manufactured by L. C. Chase and Company. It was never made by du Pont.

Q. What happened to Buick's business in 1918?

A. In 1918 we lost some of their top material. We had decided Pontop had been fully perfected, that we would withdraw the "Rayntite" material, pyroxylin coated top

material, and we urged Buick to accept "Pontop" for tops instead of "Rayntite".

We tried to get them to do that before we withdrew Rayntite, because in the previous year we had sort of a similar experience with Chevrolet where we had withdrawn our mohair before they were ready to accept our Rayntite.

We hoped to get Buick straightened out and using "Pontop" before we actually withdrew "Rayntite". However, they did not, the idea didn't appeal to them, and we lost some of their business at that time.

Mr. Neitzert: I refer the Court in that connection to Exhibit DP-246 which is the undated memorandum captioned [fol. 4556] "Buick Motor Company" which we previously referred to.

By Mr. Neitzert:

Q. This memorandum has at the end of it the initials, "H.A.L." Who was H.A.L., Mr. Brown?

A. H.A.L. was Henri A. Lindsey who was assistant director of sales of the Fabrikoid Division in 1918.

Mr. Neitzert: I am not going to read all of the memorandum unless the Court wishes me to do so. I wish merely to point out that the memorandum refers to a misunderstanding that developed between the Buick Company and the du Pont Company in 1918, involving the adoption of "Pontop" and the use of "Pontop" by Buick for test purposes on the road so that the du Pont Company could get some large quantities in use, and it ends up with an entry on July 30th and starts:

"July 30th, Stark wires Buick placed order with unknown competitor and that he was writing fully."

By Mr. Neitzert:

Q. Is that the loss of business you have referred to?

A. Yes, sir.

Q. How did that situation eventually work out?

A. We had, as indicated here, an order from Buick for Pontop of 25,000 yards, but they wanted to extend deliveries over the entire last half of 1918, whereas we had a new product, and we wanted an order from them which they would get

on cars and get on the road so we would have the advantage of that service experience before we got into full production in 1919, but they couldn't make up their minds to handle it that way.

[fol. 4557] In the meantime, Chevrolet came along and we sold out our limited capacity in 1918 to them. Buick didn't like it, and they had quite an argument with our Detroit people on it.

We have reported in late 1918 this controversy, and the fact that we had been unable to get Buick on "Pontop," and we were asked by Mr. du Pont—told by him, rather—that it was very important that Buick actually get "Pontop" on test and get it in the service, and we should try to sell them, even if we had to sell them at cost to get them to adopt this new product.

Actually, Buick did adopt the product in the spring of 1919.

Mr. Neitzert: I refer to Government Trial Exhibit No. 303 which is a letter from Charles L. Petze, Vice-President, to the Board of Directors of the du Pont Fabrikoid Company, dated November 18, 1919, and the second paragraph of the letter is as follows:

"Our contract with the above Company, taken on April 17, called for the following materials:

"525,000 yards Double Texture top material at 1.00 45¢ per yd.

"950,000 yards Single Texture curtain material at 59.78¢ per yd.,

"and 200,000 yards of Bow Lining at 34.055¢ per yd."

At the bottom of the page appears the selling price of the material described in the contract to have been \$1,163,382.50.

[fol. 4558] By Mr. Neitzert:

Q. I call your attention, Mr. Brown, that this exhibit contains the following language on page 2, and I quote:

"At the time negotiations were on, Mr. Pickard was familiar with the fact that on account of our relations with the General Motors Corporation, our competitors were naming abnormally low prices, either with the

intention of taking the business which they had heretofore enjoyed, even at a loss or a small profit, or with the idea of making the business unprofitable to us"——

Now, what business had du Pont's competitors theretofore enjoyed with the General Motors companies that was going to du Pont in 1919?

A. Well, the Chevrolet top business, competitors had enjoyed for a period after we withdrew from the manufacture of mohair, and——

Q. That is just for the year 1918?

A. That was a part of 1918, and early 1919.

Q. What other business?

A. There was the Oakland and Olds business. We had lost portions of that at the time we were having an argument with them about color of the dyed backing.

Q. Was that only a temporary loss, or was there a loss over a period of years?

A. No, they were both temporary, because we had previously sold them their requirements of top material.

Q. Do you know of any other business that had gone to competitors that was going now, in 1919, to du Pont?

A. There was no other.

[fol. 4559] Q. Now, again directing your attention to Government's Exhibit No. 303, and continuing to read from page 2:

"—and so informed Mr. du Pont who stated to him that he thought it was wise, in order that we might open business relations with the Buick Company for materials which we had not heretofore sold them, to go even as low as our cost price."

Now, what were the materials that you had not theretofore sold to Buick?

A. We had not sold them our new Double Texture Pontop, but we had previously sold them for their tops our Double Texture "Rayntite," pyroxylin coated product.

Q. All right. Now, what happened in 1920?

A. In 1920 we obtained a substantial contract for both top material and artificial leather. The top material contracts were for Buick, for about two-thirds of their requirements. At least that is the way it started.

We sold them originally 1,300,000 yards, but that contract was to run from July 1, 1920, until June 30, 1921. Before deliveries were started Buick requested we reduce the size of that to 780,000 yards, which we did, and which meant that we then had less than one-half of their requirements for that period, or their estimated requirements.

On the pyroxylin, we had about one-third of the interior trim business.

Q. That was in 1920 contracts?

A. Yes.

Q. What time in 1920 were those contracts made?

A. They were made in the spring of 1920.

Q. Were those contracts that were later involved in the contract dispute which resulted in the 1922 settlement, and Buick agreed to take care or to take all of their requirements from du Pont.

[fol. 4560] Mr. Harsha: I object to the form of the question. He doesn't have to let the witness—

The Court: Sustained.

Mr. Neitzert: I offer DP 252, which is a memorandum dated July 28, 1920, with the initials "CLP", and I will read—

By Mr. Neitzert:

Q. Who was CLP, Mr. Brown?

A. That was Mr. Charles L. Petze who was the director of sales of our division.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 252.)

Mr. Neitzert: This exhibit is as follows:

"On the basis of 170,000 open cars production, which was the original estimate, we were originally given an order for 1,300,000 yards of deck and curtain material, and were told that this represented $\frac{2}{3}$ of the total quantity required, which on this basis would be 1,950,000 yards."

By Mr. Neitzert:

Q. What contract does that have reference to?

A. A contract for rubber top materials.

Q. With what company?

A. Pardon.

Q. With what company?

A. Buick Motor Company.

Mr. Neitzert: (Continuing):

"This order was later on reduced to 780,000 yards, so that our competitor, Haartz, who received the order for [fol. 4561] the balance of the requirements, received an order for approximately 1,150,000 yds.

"We are now advised that in place of a production of 170,000 open cars the production will be approximately 135,000. Therefore the total yardage required on the reduced production would be approximately 1,500,000 yards.

"We are now asked to reduce our quantity from 780,000 yards to 353,000 yards. If we deduct the 353,000 yards from the estimated new requirements of 1,500,000 yards, we have approximately 1,150,000 yards, which is the estimated actual yardage contracted for with Haartz, indicating no reduction in his contract quantities."

Now, I will here also make reference to Government's Trial Exhibit No. 306, which sets forth the matters referred to in Exhibit DP 252 in a little more detail, and which also refers to the dispute which later developed about cancellation of this contract.

On that same subject, your Honor, I refer to Government's Trial Exhibits Nos. 307 and 308 which developed the events which occurred in the course of the dispute which arose at Buick about the cancellation of that contract.

I also offer in evidence DP Exhibit 253, which is an excerpt from the report of the Fabrikoid Division to the Executive Committee for January, 1922.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 253.)

[fol. 4562] Mr. Neitzert: This report is dated February 15, 1922, and it contains the following:

"During this month the old uncompleted 1920 Buick contract was finally adjusted—cancelled—and a new

contract written under which they will buy their entire requirements of us in 1922, at a satisfactory price."

By Mr. Neitzert:

Q. Did Buick buy all of its requirements of artificial leather, decking and curtain materials from du Pont in 1922, Mr. Brown?

A. They bought all of their requirements that called for coated fabrics, but they bought a considerable quantity of uncoated fabrics from competition in 1922.

Q. What use did they make of these uncoated fabrics?

A. They were both used on open cars—that is, the Pontop type which we supplied, and the uncoated type. It was just some models specified the uncoated, and some the other.

Q. When did Buick start using this combined uncoated decking.

A. They may have started in 1921 in a small way, but 1922 was the first year of any consequence.

Q. What extent, to which extent did Buick use this uncoated fabric in lieu of our coated top materials which was covered by the contract to take all of their requirements from du Pont?

A. They were used very substantially, at least half, or perhaps more than half of their cars were covered with the uncoated material.

Q. Did you attempt to sell Buick this uncoated material?

A. We didn't at that time. We had not developed the item. We went to work on it and we had it ready for them the next year.

[fol. 4563] Q. When did you first start trying to sell that material?

A. In 1923.

Q. When did you first make any sales to Buick?

A. We first made sales of that type of product in 1926.

Q. Do you know what percentage of Buick's total requirements of coated and uncoated fabrics was furnished by du Pont during 1922?

A. In 1922 I estimate we had something better than fifty percent—perhaps sixty percent—as we had all of the trim and part of the top material.

Mr. Neitzert: I offer in evidence Exhibit DP 254, excerpt of report of Fabrikoid Division to Executive Committee for October, 1922:

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 254.)

Mr. Neitzert: This is dated November 17, 1922, and contains the following paragraph:

"They"——

meaning Buick——

"are looking for a top material of combined fabric which is faster to light than the material they are now using, which is khaki duck combined to drill and which will run into considerable yardage for 1923."

By Mr. Neitzert:

Q. Did you attempt to get any of that business?

A. We did not get it, no, sir.

Q. Did you attempt to get it?

A. Yes, we tried but were not successful.

[fol. 4564] Mr. Neitzert: I also offer in evidence Exhibit DP-255 which is a report of the Executive Committee for the month of March, 1943, dated April 23, 1923.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 255.)

Mr. Neitzert: Exhibit DP-255 contains this paragraph:

"Negotiations are in progress with General Motors units regarding the supply of khaki top materials for sport jobs. During March shipments were made to Buick of about 3,000 yards which should result in a large yardage, if this shipment is satisfactory."

By Mr. Neitzert:

Q. Did you make further sales to Buick?

A. No, we didn't. We had that one sample order, but we didn't get the production order.

Q. Did you attempt to get the rest of it?

A. Yes, we did, unsuccessfully.

Mr. Neitzert: I offer in evidence Exhibit DP-256 which is a report or an excerpt from a report of the Fabrikoid Division to the Executive Committee for May, 1923.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 256.)

Mr. Neitzert: This report is dated July 2, 1923, and contains this paragraph:

"A further attempt will be made to enter the field for Sport Top material, which is 1.22 drab duck com- [fol. 4565] bined to 1.85 Drab Drill. While this class of business is not very profitable, competitors continue to furnish Buick with it which might influence Buick to give them more desirable business in addition to the Sport Top material."

By Mr. Neitzert:

Q. Were you able to get any of Buick's business at that time?

A. Not at that time, no.

Q. Were you furnishing Buick with all of their requirements of what is here referred to as the "more desirable business" at that time?

A. No, we were not.

Q. Did you ever supply Buick after 1922 with 100 per cent of their requirements of the kinds of fabrics that you were manufacturing in 1922?

A. Never again did we supply Buick 100 per cent.

Q. What use was Buick making of the coated fabrics during this period?

A. Buick was using coated fabrics for trim of open cars, and they were using Pontop type on a portion of the tops manufactured.

Q. Did Buick manufacture closed bodies during that period?

A. No, they manufactured open bodies. Fisher made the closed bodies.

Q. How long did Buick continue to manufacture their open bodies?

A. Possibly 1933.

Mr. Neitzert: In passing, I call attention to Government's Trial Exhibit 454, page 9 of that exhibit, which shows that du Pont had none of the Buick top business during the first half of 1925.

By Mr. Neitzert:

Q. What happened during the period from 1922 until [fol. 4566] Buick discontinued the manufacture of open bodies? What happened to both your volume of sales to Buick, and also the Buick percentage of coated fabrics furnished by du Pont?

A. You say in 1932?

Q. No, from 1922 until they discontinued the manufacture of open cars, what happened to the volume of sales to Buick?

A. Well, it fluctuated there. In two years, we had the Teal business from them. I think it was in 1927 and 1928. We then lost it to the Haartz Company in 1929 and 1930. In 1931 we had some of it back again. In the coated fabrics business, we continued to get a portion of it, probably half. I would say about one-half right straight through the period. I never recall losing that contract entirely.

Mr. Neitzert: I offer in evidence Exhibit DP 257, which is an excerpt from the report of the Fabrics Division to the Executive Committee for March, 1929, which is dated April 19, 1929.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 257.)

Mr. Neitzert: The fifth paragraph reads in part:

"Fairfield automotive prices remained unchanged during the month, but a slight increase in some of the raincoat numbers was made. We quoted Buick Motor Company on their Teal business for the last nine months of 1929 without success, the business going to the J. C. Haartz Company, as we understand it, solely because General Motors Export insisted on Haartz's material."

This refers to the loss of the Buick Teal business you [fol. 4567] testified about?

A. Yes, sir.

Mr. Neitzert: I also offer in evidence Exhibit DP No. 258, which is an excerpt from a report of the General Manager, William Richter for August, 1931, bearing date September 21, 1931.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 258.)

Mr. Neitzert: It reads as follows:

"Buick has specified Fairfield teal (double texture topping for sport models) for the remainder of 1931. This business has been regained after a lapse of two years, during which competitive material was used. The special colors, and especially woven figured backings of the samples submitted, were instrumental in our receiving this business, as competitors did not have a similar product to offer."

Mr. Neitzert: I now offer in evidence Exhibit DP 259, which is a schedule of dollar sales of coated and combined fabrics by the du Pont Company to the Buick Motor Company over the years 1919 to 1933.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 259.)

Mr. Neitzert: If your Honor please, this exhibit was prepared in the same way as Exhibit No. 250, which is the Chevrolet schedule, with one exception—two exceptions.

The figures for the du Pont sales are from the du Pont accounts receivable ledger. We do not have the sales department card for Buick covering this period. It has been taken out of the files or lost, and is not available.

[fol. 4568] The data for the year 1922 and the Newburgh sales and Fairfield sales is from GM Exhibit 151, as in the prior exhibit. The figure is \$711,821.00, under the caption, "Total du Pont Sales".

That is from the du Pont accounts receivable ledger.

Now, your Honor will observe if you add a sum of the sales of General Motors purchases in General Motors Exhibit No. 151, amounts the \$1,356,150.00.

Of that, du Pont sold Buick only \$711,821.00.

What does the difference of these two figures represent?

A. It represents combined and coated top material.

Mr. Harsha: May it please the Court, I must say the government has found this an extremely confusing exhibit, and I think in its present form it is quite misleading. I am not sure I even understand counsel's explanation.

If the Fairfield sales figures and the Newburgh sales figures indicated in this column are not in fact the sales made by those two plants to General Motors, it seems to me the figures are misleading because they have no business being in the columns indicated.

Mr. Neitzert: As I explained in connection with Exhibit No. 250, we have put those figures under those headings merely for purposes of comparison because top materials are manufactured at Fairfield, and imitation leather is manufactured at Newburgh.

We have put them in there so you could compare General Motors' total purchases as they reported with what they purchased from the du Pont Company, not only for 1922, but by looking over the sales per car in the last column, you can determine approximately what percentage of the Buick Motor's requirements were purchased from [fol. 4569] the du Pont Company during succeeding and preceding years.

Now there should not be any confusion about it. I am sorry if there is, but the footnote indicates very clearly that the figures that appear for 1922 under Newburgh Sales and Fairfield Sales were taken from General Motors Trial Exhibit No. 151, and include purchases of combined and uncoated fabrics from competitors of du Pont. They also show, by adding them together, how much these purchases were, some half million dollars.

Mr. Harsha: If that is the explanation then, Counsel, I would suggest that we would object to this chart on the ground that it takes unrepresentative figures because what they are doing is indicating for one particular year out of approximately fourteen years the figures for showing the total GM purchases from all sources, and then dividing them up in some fashion fairly arbitrarily selected.

Some of them are put under the Fairfield column and others under the Newburgh column.

For 1922 they are showing for that one year only what were GM's total purchases of this type of material. It seems to me if they are going to show the GM total purchases, so that you get a ratio here of du Pont purchases to GM's total purchases, then they should do it throughout, because these things can fluctuate from year to year, as all of these exhibits show.

Mr. Neitzert: Your Honor, I only wish that we had Buick's total purchases of the type of materials that are made by the Fabrics Division for all the years. But that information is not available, and the only thing that is available to us, and apparently that General Motors can [fol. 4570] produce, is what was purchased in 1922.

Now we have offered in evidence such data as we have showing that there has been very little change in the price of gray goods or in the price of pyroxylin coated material during the period covered by this chart.

We also have in those cases where it is shown by our sales cards the actual number of yards purchased by each of these General Motors divisions from the du Pont Company covering all these years.

So you have a comparison of yardage per car, a comparison of the price per yard, and you have the total purchases.

Now if I could get General Motors' total purchases for each of the years, I would do it. But we only have 1922, and fortunately that is the year when we had contracts with the General Motors companies to buy all of their requirements of the kind of fabrics that we manufacture from them.

While the figures which are based upon that year for the following years are not necessarily mathematically 100 per cent correct, as is shown by an examination of the Chevrolet tables—and the reason I spent so much time on the Chevrolet tables is because we know exactly what Chevrolet purchased from others during the entire period, and the accuracy of our calculations there must have been very apparent, and to me they are very impressive.

If you will compare the purchases of the General Motors companies of coated fabrics per car in 1922, as shown in General Motors Exhibit 151, with the purchases from du Pont in that year, and in the following years, you have a basis for determining the percentages purchased from

du Pont—not relying on the memory of man or upon speculation or upon wherever the government got the false information that is contained in the complaint. We have figures here from the permanent records of these companies by which it is possible to reach a fairly accurate estimate of what percentage of the General Motors' purchases during all of these years were made from the du Pont Company.

Now it is alleged in the complaint that beginning in 1917 and continuing thereafter for a period which is not specified, they bought all of their requirements of these fabrics from the du Pont Company.

The Court: Pardon me. If these figures are not accurate nor representative, as the government contends, the government will have an opportunity to show this on rebuttal.

So the objection is overruled, and the Court will stand recessed.

(Whereupon a recess was taken until 2:00 o'clock p. m. of the same day, Thursday, April 23, 1953.)

[fol. 4572] The Court: Proceed.

AUBREY LEE BROWN, called as a witness on behalf of the defendant, E. I. du Pont de Nemours and Company, having been previously sworn, resumed the stand and testified further as follows:

Direct Examination (Continued).

By Mr. Neitzert:

Q. Mr. Brown, will you look at Exhibit DP 259 and state what part of that exhibit was prepared by you?

A. I prepared only the notes that are numbered 1 to 5, except the Note No. 2, which I did not prepare.

Q. I notice you do not have any note explaining the increase in the Newburgh sales per car manufactured in 1930 over 1929.

What is the explanation of that?

A. At that time Buick had a special model with a solid top on which they used a product developed at Newburgh which

we called "Sportop". They brought it out for one year only, and it boosted our sales quite a bit at that time.

Mr. Neitzert: Now, your Honor, I wish to take up our sales to the Cadillac Motor Company.

[fol. 4573] By Mr. Neitzert:

Q. You have already testified, Mr. Brown, that in 1917 Cadillac was buying all of its imitation leather from du Pont. What about top materials?

A. Top materials, Cadillac was using a product called Pantasote manufactured by the Pantasote Company, an oxidized oil material which was considerably higher priced than our "Rayntite" and was regarded as a higher grade product.

Q. And what happened in 1917, what happened after that? What happened in 1918?

A. In 1918 we brought out "Pontop," and hoped to convert Cadillac to that. We sold them test quantities, and they purchased some Pantasote. I believe their main purchases that year were of Hodgman, another rubber type product. They continued their tests on several types of materials, but it was not until 1920 that they switched over to "Pontop," and at that time they told us that it had won out in a series of tests that they had conducted.

Mr. Neitzert: I refer to Government's Trial Exhibit No. 298 which shows that in 1917 Cadillac was buying artificial leather from du Pont, in 1917, 30,000 yards, and in 1918, 18,500 yards, and shows the amounts purchased from the du Pont Fabrikoid Company, Hodgman Rubber Company and Pantasote Company.

By Mr. Neitzert:

Q. What has been the history of Cadillac purchases of curtain and top materials and artificial leather since 1920?

A. After 1920 on top material we continued to sell them "Pontop," right straight through, as long as they built open [fol. 4574] bodies. On the trim material we sold 100 per cent of that, except this one year, 1924. I recall that we lost six months trim material to Textileather Corporation who were in there at a considerably lower price.

Q. What use did Cadillac make of coated fabrics?

A. Cadillac coated fabrics for tops.

Q. No, I mean on what type of body did Cadillac use coated fabrics, excuse me.

A. Well, on the open bodies, they built no closed bodies, and in 1924 they finished with open bodies, and thereafter Fisher Body built the open bodies as well as closed bodies.

Mr. Neitzert: I offer in evidence Exhibit No. DP 260 which is the schedule of dollar sales of coated and combined fabrics to the Cadillac Motor Car Company from 1921 to 1926.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 260.)

Mr. Neitzert: This exhibit was prepared in exactly the same manner as Exhibit No. 259, and the information was taken from the same sources; that is, the du Pont sales are from du Pont's accounts receivable ledger, and except for 1922, in which case we show the purchases for Cadillac, as disclosed by General Motors Exhibit No. 151.

Mr. Harsha: I would like to raise the same objection, your Honor, as I did to the previous exhibits. It is this using of combined du Pont and competitor figures and listing them below the heading "Newburgh" and "Fairfield Sales" which I think is misleading, and an attempt to introduce a comparative analysis, rather than a dollars and cents [fol. 4575] figure which is fragmentary, and I think also it is misleading.

The Court: What number are you referring to?

Mr. Neitzert: Exhibit No. 260.

This involves the same subject discussed before. They are absolute dollar figures there, and it is all that is shown by the records what we have, and what General Motors have, and have been disclosed to us.

As far as the first four columns is concerned they are absolute figures, and the other three columns are all computed figures, computed from the figures in the other columns.

The accuracy of the exhibit is shown by the fact that if you will compare, for example, the number of dollars per car purchased from du Pont in 1923 and 1924, you see it drops to almost half. That year, the witness testified, we lost a half.

The Court: I think it should be received, particularly in

view of the fact that counsel will have an opportunity to show that they are not accurate, on rebuttal.

Overruled.

By Mr. Neitzert:

Q. Did Cadillac ever use any "Teal"-like or uncoated fabrics during the period that it made its own open bodies?

A. It did not. They used coated fabrics.

Q. Now, let's go to the Olds Motor Works. What contracts did the du Pont Fabrikoid Company have with the Olds Motor Works in the Sales Department in 1917?

A. We had contracts at that time, I am not sure of the amounts, but I do recall that we had their entire requirements [fol. 4576] in the first half of 1917, and a study of the records and the conversations at the time of the other associates there, indicated that we had had all of Olds business from 1912—interior trim and top materials.

Q. What happened later, in 1917?

A. In 1917 we were having a controversy with Olds. The top material which they were buying, our "Rayntite," had an olive drab backing, and because of the scarcity of dye stuffs we had shipped out material that varied somewhat in shade, and they became quite upset about that, and we couldn't straighten it out for some months until later when we were able to get dye stuffs, later in 1918.

We were able to get enough of one shade to practically guarantee that we could maintain that uniformity.

At that time they resumed part purchases from us, although in the meantime we had lost much business.

Mr. Neitzert: I offer in evidence DP Exhibit 261, an unsigned letter to the Olds Motor Works, dated April 10, 1918.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 261.)

By Mr. Neitzert:

Q. Do you know who wrote that letter?

A. Yes, I wrote it.

Mr. Neitzert: And I also offer in evidence Exhibit DP 262 which is a letter from Charles L. Petze, director of

sales, to J. A. Haskell, vice president of General Motors Corporation, dated October 12, 1918.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 262.)

[fol. 4577] Mr. Neitzert: Both of these letters refer to the dispute relating to colors, your Honor, and I am not going to read them both, although they are both important.

I will read the du Pont Exhibit No. 262, because it is in print and easier to read.

"You asked me sometime ago relative to various complaints from the Olds Motor Works on our Rayntite top material, where the drab back was not of a uniform color.

"At the time these troubles were most in evidence, after June, 1917, we were having a great deal of difficulty in securing a sufficient supply of uniform dye. It was impossible to get our entire supply from one source. Consequently our material did not run uniformly in this respect—on the other hand, that of our competitors did not. The Olds Company made several complaints regarding off-color, especially in view of the fact that some of our shades were materially different than competitive material which they had, and in two instances during September and November, 1917, we took back from them some of these goods. Later our dyes became more uniform, and on some later orders from Olds the plant actually did use some of the returned goods which corresponded very closey to our standard at that time, the Inspectors assuming there would be no objection on the part of the Olds Company.

"At the present time our color is very uniform and we believe when we again have the opportunity of figuring with Olds or any of the other General Motors [fol. 4578] Units, we shall be able to satisfy them, not only as to the shade of drab, but the uniformity, and while our shade is lighter than some of our competitors, we feel it is a better shade and this has been proved by our having supplied the Chevrolet Company with large quantities of it to their entire satisfaction, and as a matter of fact they have changed their standard from

that heretofore supplied by the Chase Company to the Fabrikoid Standard."

Then I refer, if the Court please, to Government Trial Exhibit No. 296, which is a letter from Mr. Ver Linden to Haskell, dated July 11, 1918.

By Mr. Neitzert:

Q. Who was Mr. Verlinden at that time, Mr. Brown?

A. I believe he was the president and general manager of Olds Motor Works.

Q. This shows that in 1917, 87,049 yards of imitation leather were purchased from du Pont, and 45,587 from Textileather, and shows quite a reversal of position in 1918.

How did this controversy finally work out?

A. Well, in 1919 we regained their business, about one-half at that time.

Q. What happened in 1920?

A. In 1920 we again had a contract from them for top material and a smaller contract for trim—in 1920 the contract was for 100 percent of their requirements for top material. The trim material was, as I recall, about a third. I remember it was quite small comparatively.

Q. What happened to the 1920 contract?

A. That contract was held up because of the falling off, [fol. 4579] drastic falling off, of automotive sales in that year. They held up orders and then wanted to cancel, and it finally ended up in negotiation which involved cancellation in return for their purchasing all of their requirements in the year 1922 from us.

Q. Did they do so?

A. Yes, sir, they did.

Q. What happened after 1922?

A. 1923 they gave us about half of their business. It dropped off materially from 1922.

Mr. Neitzert: I offer in evidence DP Exhibit No. 263, which is a schedule of sales of the Olds Motor Works.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 263.)

By Mr. Neitzert:

Q. Take a look at du Pont sales per car and also total sales for the year 1923. And please state whether that refreshes your recollection as to what was sold by du Pont to the Olds Motor Works in 1923?

A. It fell off much sharper than I indicated, because our average sales dropped down very low. It looks like we might have had a third or less of the business in that year.

Q. What accounts for the increase in sales per car for the year 1924 and 1925?

A. In 1924 for the 1925 models, Oldsmobile got out a cheaper car, a light 6, and attempting to keep the price down, they used Fabrikoid for upholstery.

The same year we started selling them "Teal," so that in 1924 and 1925 we had a substantial increase in that business.

The "Fabrikoid" was continued only one year, however. [fol. 4580] At the end of that model year the sales department had decided that they needed the sales argument that their upholstery was natural leather, the same that was used on more expensive cars, and they went to leather at that time.

Q. How long did you have the "Teal" business?

A. We had the "Teal" business in 1924, 1925, and 1926. 1926 was the last year we had it.

Q. Were you able to sell Olds any more "Teal" or uncoated fabrics after 1926?

A. No. Olds purchased its entire requirements from others beginning in 1927 and we never did regain any of it.

Q. What type of body was Olds manufacturing at this time?

A. Open body, open cars only.

Q. Who manufactured the Olds closed body during this period?

A. Fisher Body Corporation.

Q. Did Olds later discontinue the manufacture of open bodies?

A. Yes. Olds dropped out of manufacturing open bodies in 1929, and had them manufactured for them by the H. J. Hayes Body Works.

Q. What part of this Exhibit DP 263 did you prepare?

A. I prepared nothing on the exhibit except the notes from 2 through 5.

Q. I notice that there is no explanation of the increases in the sales per car in 1928 over 1927.

Will you state why there was that increase?

A. Yes. Olds built a special model with a solid top made from our "Sportop," the same one which I just described that Buick also used. Olds used the same product but a different color. They kept it in the line one year only.

Q. Mr. Brown, on some of these tables it appears that the du Pont sales are from accounts receivable ledgers and [fol. 4581] in some cases they are from the Fabrics Division sales cards.

Have you looked for sales cards for the years where the data has been taken from accounts receivable ledgers?

A. Yes. We looked very carefully, and unfortunately the records are not complete back in those early days. Some of the cards, for reasons which I can't explain now, go back farther than some of the others.

Q. About what percentage of Olds' requirements of coated and combined fabrics were bought from the du Pont Company after 1923?

A. After 1923 we had somewhat less than half. I wouldn't be able to give you very accurate figures.

Q. Now, let's go to the Oakland Motor Car Company. When you went with the du Pont Fabrikoid Sales Department in 1917, what contracts did you have for the sale of coated fabrics to Oakland?

A. 1917 we had contracts for about a third of Oakland's requirements.

Oakland had been a customer for a long time, according to the records that I looked over there, from about 1913. Although their policy apparently was always to have three sources, we seemed to get about a third of the business.

Q. What happened in the latter half of 1917 with reference to this Oakland account?

A. We were involved with them in some disputes, the same type of disputes we were having with Olds on the question of backing, and we lost some of their business for a period.

Q. How long a period?

A. I think my—we were selling them again in 1919. I don't recall. I think that we had some of the artificial leather

business in 1918, but the top business, I don't know that we had any of that in 1918.

[fol. 4582] Mr. Neitzert: I refer to Government's Trial Exhibit 300 which shows the sources from which the Oakland Motor Company bought its requirements in 1917 and 1918, which on page 3 contains a letter which shows the color troubles that the witness has described.

By Mr. Neitzert:

Q. What happened after this color difficulty was solved?

A. After that was solved, they resumed buying from us about the same amount they had previously purchased.

Mr. Neitzert: I have been told that I did not offer DP Exhibit 263. I just discovered it. I do offer it now.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 263.)

Mr. Neitzert: Will you excuse the interruption, and proceed with your answer as to what occurred in 1918, 1919, and 1920, with respect to the Oakland account?

A. In 1919 we had a contract for top material, and another contract in 1920. In 1920 I think it was 180,000 yards, if I remember it.

Q. What happened to that contract?

A. That contract was held up by Oakland when the sales started to fall off shortly about the summer or a little later in the summer of 1920 because of the depression I have described earlier in the discussion. They wanted a cancellation which we were unable to accept because we had purchased the material. It ended up finally with our agreement to cancel in return for their agreement to purchase their 1922 full requirements from us.

Mr. Neitzert: I refer to Government's Trial Exhibit No. [fol. 4583] 309 and 310, which traces at least a part of the history of this dispute.

I offer in evidence Exhibit DP No. 264, which is a letter dated February 8, 1922, from the Division Manager of the Fabrikoid Division to Mr. C. O. Miller of the Oakland Motor Company, with reference to this settlement.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 264.)

Mr. Neitzert: This reads as follows:

"Confirming conversation of today.

"In consideration of the agreement as outlined below we agree to cancel any undelivered yardage on the contract you now have with us.

"You agree to take from us during the year 1922, all of your requirements of whatever qualities you desire of top, curtain and upholstery materials, manufactured by us, paying therefore our current list of prices less a discount of 20 and 10 percent subject to the further regular cash discount which you are now enjoying and subject to your present term of settlement."

Did Oakland buy all its requirements of coated fabrics from the du Pont Company during 1922?

A. I believe so. We had their contract, and I am sure they did.

Q. Did any outside purchases come to your attention?

A. None, no.

Q. Then what happened in 1923?

A. In 1923 they reverted to their practice of buying from three sources.

[fol. 4584] Q. How long did they follow that practice of buying from three sources?

A. They did not change it so far as I recollect.

Q. How long did you continue to sell them a part of their requirements?

A. We sold them a part of their trim requirements as long as they built open cars. In 1926, I believe, they started using uncoated combined material which they bought from competitors. We never participated in that end of the business.

Q. Did you try to get that business?

A. Yes.

Mr. Neitzert: I offer in evidence DP Exhibit No. 265, which is a schedule of the sales of the du Pont Company to the Oakland Motor Company for the years 1922 to 1923, which are the years we have the data on in our sales files.

For the year 1922, from the General Motors Trial Exhibit No. 151.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 265.)

By Mr. Neitzert:

Q. What type of bodies did Oakland manufacture during this period?

A. They made open cars only. The Fisher Body made their closed cars.

Q. When did they discontinue manufacture of the open bodies?

A. Probably in 1933, maybe earlier. I am not sure.

Q. Were there any substantial sales of coated or combined fabrics made by the du Pont Company to the Oakland Company after it discontinued the manufacture of open bodies?

A. No, none whatever.

[fol. 4585] Q. What portion of Exhibit No. 265 did you prepare?

A. I prepared the notes that are marked "2" and "3."

Mr. Neitzert: I offer in evidence DP Exhibit No. 324, which is a tabulation taken from the Oakland sales card, which shows the same information with respect to yardage of goods purchased from du Pont as is shown in the preceding exhibit, DP-265, with respect to the dollar purchases from du Pont. As shown at the end of this exhibit, all data was taken from the sales files, except for the number of open cars manufactured, which was obtained from the production records.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 324.)

Mr. Neitzert: Now, your Honor, we wish to discuss the General Motors Truck business for a minute.

By Mr. Neitzert:

Q. Was the du Pont Company selling coated fabrics to General Motors Truck Company when you went into the Fabrikoid sales office in 1917?

A. I am not certain of that. They were customers, and

It is the summary report which was attached to the preceding exhibit.

I call attention to the percentage figures on the last column of this report, which show the percentages of the quantities of fabric and the manufacture of the principal makes of automobiles that were being supplied by the du Pont Company.

I am going to read, if your Honor please, the name of the automobile which is in the first column, and then read the percentage of fabric business secured by du Pont, which is in the last column.

[Fol. 4607] By Mr. Neitzert:

Q. Let me ask you, Mr. Brown, the caption of the last three columns is "Du Pont Sales, Fabrikoid Division." Did that include both Newburgh and Fairfield, or just Newburgh?

A. The division includes the two.

Q. That included all of the coated and combined fabrics we were selling?

A. Yes, sir.

Mr. Neitzert: The first is:

American Austin	15.2
Auburn Cord	None
Buick	53.2
Cadillac-LaSalle	57.0
Chevrolet	30
Chrysler	11.8
DeSoto	None
Dodge	None
Durant	5.1
Ford	19.1
Franklin	2.3
Gardner	None
Graham-Paige	None
Hudson-Essex	None
Hupmobile	None
Jordan	None
Lincoln	None
Marmon	29.1
Nash	4.4

[fol. 4608] Oakland	20.5
Olds-Viking	11.4
Packard	4.1
Peerless	None
Pierce Arrow	42.0
Plymouth	None
Reo	6.4
Studebaker	5.6
Willys	.4
General Motors total	31.5
Total Ford	19.1
Total Chrysler	2.9

Mr. Harsha: Mr. Neitzert, did you say "General Motors total, 31.9"? It looks like a 5 to me.

Mr. Neitzert: If I said "9" I misread it, or misspoke myself, because my record shows 31.5 also.

Thank you for calling that to my attention.

Of course, Your Honor will note that it is easy to get some idea about the size of these sales and the size of the requirements of the various automobile companies by looking at the yardage-amounts which appear in the columns, between the two columns that I read.

By Mr. Neitzert:

Q. Mr. Brown, does the total Chrysler include Dodge and all of the other Chrysler companies that made up the Chrysler organization at that time?

A. The total at the bottom, yes. Yes, the total purchases there of the Chrysler Corporation.

Q. And the Chrysler above?

A. We have it itemized "Chrysler, DeSoto and Dodge," I notice.

[fol. 4609] Mr. Neitzert: I believe, your Honor, that all of the other data on the exhibit is self-explanatory. The figures are in yards except the production of cars, which are in units.

I might call attention to the three columns that are under the general caption "Yards of Potential to date 1930." Will you explain what those three columns indicate, Mr. Brown?

A. Well, the first column, "Where Fabric Now Used" is where they are actually using it at that particular moment.

The second column "Where Fabric Could be Used", it is our guess or our estimate of materials that could be substituted:

Q. Then this study shows that at the bottom of those columns there was something over eighteen and a half million yards of fabric being used, and Mr. Plank who made the study thought that fabric could be substituted for uses to add another 3,710,875 yards?

A. Yes, sir.

Q. What are some of those uses?

A. I think he probably explains in his letter here.

Mr. Neitzert: No, I think we have another exhibit that shows it.

I offer in evidence now Exhibit DP No. 282 which is secondary data report sheet which was attached to Exhibit 280; and which shows in greater detail the potential uses for the pyroxylin or rubber-coated textiles, brands of automobiles, and the sales for each such uses by the du Pont Company during the first eleven months of 1930.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 282.)

[fol. 4610] Mr. Neitzert: Your Honor will notice that exhibit is captioned "Potential existing in automotive field for use of pyroxylin or rubber-coated textiles as original equipment during the first eleven months of 1930."

I believe one of the notes indicates that one of the most important uses of these substitute fabrics was for leather.

I believe this exhibit is also self-explanatory, and I call attention only to the last four figures in the line of totals at the bottom of the chart, at the extreme lower right-hand corner of the exhibit. It appears that the actual yardage of coated fabric used during the first eleven months of 1930 in the manufacture of automobiles, at least the automobiles whose names appear in the exhibit was estimated to be 18,635,083 yards.

There was estimated to be an additional potential of slightly over 3,700,000 yards.

Du Pont actually sold 618,806 yards of Newburgh fabrics, and 3,038,646 yards of Fairfield fabrics.

By Mr. Neitzert:

Q. At the time these exhibits were made, there was no change in the situation with reference to Fisher Body and who was making open bodies or closed bodies, different from what you have already covered?

A. No, sir.

Mr. Neitzert: I offer in evidence du Pont Exhibit No. 283, which is an excerpt of the Fabrikoid Division Monthly Report to Mr. William Richter, General Manager, dated October 19, 1931.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 283.)

[fol. 4611] Mr. Neitzert: The excerpt is as follows:

"Fisher Body have allocated requirements through November for top material for the new closed models; Fairfield being awarded requirements for Buick and La Salle and a portion of Cadillac; also about one-half of the Chevrolet business, which was held by us 100% last year. Material for Oakland, Pontiac, (which we previously enjoyed) and Oldsmobile, has been awarded to competition,—we believe to Textileather Company. We have received Chevrolet's business on open car requirements for the first six months 1932, which business is placed direct."

I offer in evidence DP Exhibit No. 284, a letter from Mr. E. S. Nickerson to Mr. G. A. Staples, dated June 13, 1932.

By Mr. Neitzert:

Q. I believe you have already explained who Mr. Nickerson was, at this time. In case you have not, what was his position?

A. Mr. Nickerson was assistant division manager and director of sales of the Fabrikoid Division.

Q. Who is Mr. Staples?

A. Mr. G. A. Staples was division manager in Detroit.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 284.)

Mr. Neitzert: I will read a part of the letter only, your Honor, the last paragraph, beginning with the third paragraph—

I think, with your leave, I will read the three paragraphs [fol. 4612] which is perhaps better than I can do by questioning the witness.

It appears that efforts were being made by du Pont to hold the Fisher business.

“In your current and future efforts to re-gain 100% of the Chevrolet business for us,—”

By Mr. Neitzert:

Q. Was that Chevrolet business at Fisher?

A. Fisher.

Mr. Neitzert: (Reading):

“—it seems to me that the strongest argument we have in addition to the superior quality, favorable price, and our unequalled record of furnishing the automotive industry over thirteen million yards of material, practically without complaint, over the last few years, is the significance to the automobile manufacturer of having a fully responsible supply source. To drive this point home, we can unfortunately, quote actual figures from our own experience of eight years ago. In the years of 1924-1925 and 1926, we actually reimbursed Fisher Body Corporation to the extent of \$120,000 to cover the replacement and damage resulting from defective pyroxylin top material.”

By Mr. Neitzert:

Q. Is that “Pontop” or some other kind of material?

A. That is pyroxylin coated material.

Q. That is before you developed closed body “Pontop”?

A. Yes, sir.

Mr. Neitzert: (Reading):

“The reason that this loss reached the size that it did, of course, was not the value of the top materials [fol. 4613] but the labor or replacement and the restoring of expensive upholstery, etc. Figuring approxi-

mately 2 yards per car, it would certainly seem to me that you could draw up a very strong story of the unwarranted risk which any automobile manufacturer would be assuming in buying top materials from any but the most responsible and financially strong source of supply, particularly where the saving in purchasing from others at the outside would probably not exceed 4 or 5 cents per car. Specifically, I have in mind, of course, the J. C. Haartz Company, who took half of the Chevrolet business away from us last fall,—”

By Mr. Neitzert:

Q. Is he still talking about Fisher?

A. Yes, sir.

Mr. Neitzert: (Reading):

“—despite the fact that at that time this company was literally on the auction block and has since been taken over on an optional management purchase basis, which leaves the ownership and responsibility very much in doubt. To make the situation even more unsatisfactory, the Hunter Mfg. Company are in serious financial difficulties, having recently been taken over by a group of Southern cotton mills.

“I realize that offsetting this, it can be argued that the Haartz material is apparently standing up satisfactorily; but as we know only too well, the manufacture of rubber products always involves substantial risks so far as ageing is concerned and even if it meant shutting down our plant we wouldn't consider taking the risks which Haartz are now incurring by [fol. 4614] stripping their technical organization, as we know they have done. They may get away with it, but if they don't, the future consequences would be very serious indeed to the automobile manufacturer using their top material.

“I appreciate, of course, it would be unfair and improper to use any of the above information specifically, but generally, having the best interests of the General Motors Corporation in mind, it is something to which their purchasing people should certainly give very serious consideration.”

By Mr. Neitzert:

Q. About what percentage of the Chevrolet business did the du Pont Company have during the thirties, Mr. Brown?

A. Oh, about one-third.

Mr. Neitzert: Your Honor, this is a good time to recess. The Court: The Court stands recessed for fifteen minutes.

(A recess was here taken.)

The Court: Proceed.

Mr. Neitzert: One of my associates suggested I might save your Honor and the Government time if I point out that in Exhibit 281, the percentages there in the last column are the percentages of total fabrics used that was supplied by du Pont, not the total percentages of potential business. Only the fabrics actually used by the automobile trade are included in those figures.

I offer in evidence DP Exhibit No. 285, which is a letter [fol. 4615] from Mr. Brown to G. W. Sherin of the Finishes Division, Wilmington, dated April 18, 1938, which comments upon the adoption of the steel top for the automobile industry.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 285.)

By Mr. Neitzert:

Q. What effect did the adoption of the steel top have on the fabric business?

A. It put it out, all of the top material business for closed cars. There was never any use for it.

Q. At this time what other uses were being made of coated fabrics other than for tops?

A. These cars used a certain amount of material for curtains, interior curtains. At one period the weather stripping on closed cars was made of a coated fabric such as we supplied, then there were some models that had a shelf behind the rear seat, which was covered with a coated fabric. It was purely miscellaneous use, and small uses of that sort.

Q. In the open body cars; what use was made of coated fabrics in that period?

A. In open bodies, Fisher was building convertible

models, and in those cars generally the upholstery was natural leather and the trim on the seats was coated fabrics.

Q. How about the top?

A. The top material also was uncoated combined fabric.

Q. What was the single most important use of coated fabrics on both open and closed cars during this period?

A. Well, the most important use would have been in top material.

[fol. 4616] Q. Who furnished Fisher with all of their requirements for top material during this period?

A. Haartz.

Q. Did you try to get any of that business?

A. Yes, sir.

Q. Were you successful?

A. We were not successful during the thirties.

Q. I will come back to that subject of uncoated top materials a little later, but let us continue the story of trim materials. Up to the present date, what happened next in that field, after the discontinuation of the use of the fabric tops?

A. Well, there was very little coated fabric trim used in closed cars up until 1939. There was a trend towards coated fabrics, and it really became the style with General Motors in 1948.

Q. What were they used for?

A. Up until that time closed car interiors had used entirely soft fabrics, such as upholstery fabrics. That type of fabric for the entire interior trim of the car was used.

The engineers had noticed that particularly on the lower portions of the doors, where you are apt to kick it quite often getting in and out, that the soft fabrics were not standing up too well. They conceived the idea of putting a coated fabric on the lower portion of the door.

That fabric would have to be pretty abrasive resistant, and it was quite important that it be very attractive looking in order not to offend any of our potential customers who were used to seeing nothing but soft material there.

They actually found when they started to use this combination, the combination of a coated fabric with the uncoated actually enhanced the appearance.

That was just a natural for us because our product had [fol. 4617] always been rated well, both from the standpoint of quality and appearance. Even in the very early days

when the high priced cars used coated fabric trim, we almost always had the business of Cadillac and Pierce Arrow. In addition, our business had been built really on improving the finish and appearance of the product.

During the 30's we had developed for instance, in the furniture trade a finish called the Cordoba finish, which was a modified method of applying a printing and embossing combination, which proved to be very attractive, and which competitors have not duplicated up until this day. It is still an important item with us. There are trick methods of working it out which they have just not been able to accomplish.

We also were the leading factor in the handbag industry, ladies' handbag industry, where appearance was the only thing really that sold the bag. We had, I would guess, at least 40 per cent of that business all during the 30's.

Therefore when Fisher started putting something inside the car, we were ready with a product, and they used our material very extensively. I think we had probably 60 per cent of the business at that particular time.

Q. You mean in 1940?

A. 1940 and 1941.

Q. What happened during the war years, 1942 to 1945?

A. Of course, during the war, General Motors practically abandoned the manufacture of cars, and engaged in war work entirely. They were not purchasing fabrics of our type. We sold them little, if anything—very, very minor up to the end of 1945.

Q. Then what happened?

A. At that time they resumed passenger car production again, and the supply situation was extremely acute. We sold them—or rather they took everything we could sell to [fol. 4618] them, and it still wasn't enough. Our other trade, it was simply the same way with them. There was a shortage.

GM did have a policy which helped them a great deal because instead of insisting on their regular standard specifications, they took almost any type of fabric that we could produce or could secure which we felt would be useful or be satisfactory for their purpose.

I don't recall any instance where we took anything out there that they didn't grab it with pleasure. We were care-

ful, of course, of what we took out, but fabrics were very difficult to get, and there were lots of odd fabrics, surplus war fabrics coming on the market that ordinarily would never have been considered for this use, but which we were able to use and supply to them.

That continued in 1945. By the end of 1946 the shortage was pretty well over. In 1947 and '48, our percentage of Fisher business dropped back to 35 or 45 per cent—perhaps an average of 40 per cent.

Q. Where does it stand today?

A. It is still in the same position today, about 40 per cent.

Q. All right, let's go back to the uncoated fabric, combined uncoated fabric, of which your product was called Teal.

When did you first bring out "Teal"?

A. We first brought out "Teal" in 1925.

Q. When did Fisher start buying it?

A. Fisher started to use "Teal" in 1926. We always had the Cadillac, I remember. When they started to build the Cadillac, they adopted our "Teal" for that car.

[fol. 4619] Q. How long did you continue to sell "Teal" to Fisher before you lost the business?

A. Well, we sold, I would guess, half of their requirements from 1926 through 1930, and some of the requirements in 1931. But in 1931 Fisher requested their suppliers to give them a two year guarantee, the guarantee to apply if the cars were washed with gasoline, carbon tetrachloride, or similar cleaners.

We tested our "Teal" product with such cleaners and tested competitive products that we had that they were using. We didn't see much difference in cleanability, but our technical people were opposed to giving such a guarantee because they didn't have enough experience to feel sure of it.

For that reason we declined to give the guarantee. As a matter of fact, it was given only by the Haartz Company. Fisher placed all of the business with them, beginning in 1932.

Later on, in 1933, we had developed a combining medium we felt was much safer than the one we had formerly used, and at that time it was decided that we would offer Fisher

the guarantee that they still insisted upon. We did in 1933 bid on their business, with the guarantee.

Q. Did you get the business?

A. No, we didn't get it.

Mr. Neitzert: I offer in evidence DP Exhibit No. 286, which is a request to Mr. H. S. Plank from A. L. Brown, dated January 16, 1934, for a study of du Pont sales of Teal by years 1929 to date, and a second page to the exhibit, which is Mr. Plank's report to Mr. Brown.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 286.)

[fol. 4620] By Mr. Neitzert:

Q. Is this the same Mr. Plank that made the other survey that was put in to evidence?

A. Yes, sir.

Mr. Neitzert: I call attention to the second page of the exhibit, your Honor, showing sales to Fisher: 28,478 yards in 1929; 26,608 yards in 1930; 25,864 yards in 1931; 10,481 yards in 1932; 706 yards in 1933.

As against that I call attention to the larger sales to a much smaller company, the Chrysler Corporation, during some of those years.

I also offer in evidence DP Exhibit No. 287, which is a letter from Mr. Brown to Mr. Staples, which is dated March 28, 1938.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 287.)

Mr. Neitzert: The first two sentences of the letter are as follows:

"Thanks for your letter of March 23rd, which Mr. Nickerson has shown to me. For your information, the question of guarantee was covered in correspondence in 1933 and, for your current record, I am quoting below the decision made."

I don't believe it is necessary now to read the balance of the exhibit, but it contains a quotation from a letter dated August 14, 1933, from Staples to Nickerson, setting

forth the guarantee offered to the Fisher Body Company in 1933, and the unsuccessful attempt to obtain Fisher's Teal business, which the witness Brown has referred to here. [fol. 4621] I also offer in evidence DP Exhibit No. 288, a letter from Mr. Brown to Mr. Cathcart whom I believe we have previously identified. This is dated May 15, 1939.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 288.)

By Mr. Neitzert:

Q. To be sure of that, who was Mr. Cathcart in 1939?

A. Mr. Cathcart was manager of our plant at Fairfield, Connecticut.

Q. This letter is dated May 15, 1939, and is as follows:

"You have probably read Mr. Nalle's Trade Report of May 11th which indicates that for the first time in a number of years we have an opportunity to quote on Teal type material for Fisher."

This is 1939.

"Mr. Nalle's report outlines the specifications and also the two year guarantee that Fisher requires."

"For your information, the guarantee is the same one that was considered by us in 1933, and at that time we agreed to give the guarantee to Fisher as the result of the conclusions of the New Products Committee covered in Mr. Schildhauer's memorandum of August 11, 1933."

By Mr. Neitzert:

Q. Who was Mr. Schildhauer?

A. Mr. Schildhauer was technical superintendent of Fairfield.

[fol. 4622] Q. Did you make any further efforts to get Fisher's "Teal" business after 1939?

A. Yes, we did.

Q. What happened?

A. We quoted in 1940, and at that time Fisher told us if they gave us some business we would have to carry quite large stocks of fabric in order to avoid any possibility of

being unable to take care of their orders. However, they were not willing to make a commitment for these fabrics, and they were very special products used in that top material.

At that time the war was on and the fabric market was bad. We decided it would not be good business for us to give them, or to carry the stock that they had indicated they required. For that reason we did not get any of the business.

Q. What happened after the war?

A. After the war we made no attempt in 1945 to get that business because we didn't have the fabrics in stock, and they were simply not available under the conditions that existed at that time.

They approached us, however, in late 1946 or early 1947. Mr. Fred Walker, who was the buyer of this item for Fisher Body, visited Mr. Nickowitz and me at the New York office. He told us at that time that they simply had to do something about improving the top material on that convertible model.

Convertibles had been very substantially improved. They had a new method of raising and lowering the top, just by pressing a button. They felt that the one item in the convertible that had changed very little was the top material, and it was never too satisfactory.

The top material they were using, he told us, was not retaining its color very well. It faded very quickly when it was on the street, and also they were having quite a lot of [fol. 4623] complaints about shrinkage, where the top would shrink after it had been wet and dried a few times, and pull away, exposing the top, which made it unattractive.

He said that their source of supply, the Haartz Company, was simply not equipped to do research on this problem. They were a good supplier where they had a product they could make and sell, but for really going in and finding the answers to troubles, they were not equipped to do it.

Mr. Walker requested us to undertake a program that would give them a better top material. He told us that if we did and were successful, we would get a substantial portion of their business.

Mr. Nickowitz agreed to that, and we started to work on it. It wasn't however, until 1948 that we were able to really produce a product that was satisfactory to us and to them.

We did give them a very greatly improved product at that time.

Q. During this interim that you were working on the product, did you submit samples of what you had been able to develop to Fisher from time to time?

A. Yes, we did.

Q. What was the result of any tests you made on those samples you submitted as compared with any tests you made at the same time on samples of competitors' products?

A. Well, we had improved the resistance to sunlight. We had done very attractive work there with our dye stuffs experts, and they had come through with a method that did supply a dye that gave more fastness to light when the car was outdoors. The shrinking problem we licked at Fairfield by methods that were conceived there.

[fol. 4624]. Q. My question was whether or not the samples that you submitted, which did not get you any business, whether your test showed them equal to what they were buying from Haartz?

A. What period?

Q. During this period—

A. In 1939 we submitted samples. For instance, we submitted samples for tests, but we did not quote because they were not satisfactory from an appearance standpoint. We knew that when we sent them out there, but we sent them for test only. They tested all right, but the appearance was not up to what their standard was at that time.

Mr. Neitzert: I offer in evidence DP Exhibit No. 289, which refers to the incident to which the witness has just testified.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 289.)

By Mr. Neitzert:

Q. This is a letter from Mr. A. L. Brown to T. A. Nalle, commenting upon the prices that then were quoted to Fisher in an effort to sell them "Teal".

Did you get any of the business at that time?

A. No, we did not get the business.

Mr. Neitzert: I also offer Exhibit DP 290 which is dated June 17, 1940, which is a letter from Mr. Nalle to Fisher Body Division, quoting prices on various fabrics.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 290.)

[fol. 4625] By Mr. Neitzert:

Q. What kind of fabrics are referred to in that letter, Exhibit DP 290?

A. The 4130 and 4132 quoted \$1.30 and \$1.20 were "Teal" items. That is double texture items, two different colors.

Q. Did you get any business at that time?

A. No.

Q. I also offer in evidence DP Exhibit 291, which is a letter from Mr. Nalle to Mr. Brown, dated January 20, 1947.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 291.)

Mr. Neitzert: I will read the last paragraph:

"I hope that you will have good luck on working up the 'Teal' situation for Fisher, and quickly. They are running extremely close and are as anxious as I have ever seen them on anything, for us to get going quickly on it. Vern Fisher and I were talking about it Saturday afternoon and he remarked that Jess Hildebrand, Assistant Director of Purchases——"

By Mr. Neitzert:

Q. Of what company?

A. Fisher Body Corporation.

Q. (Continuing):

"—had told practically everyone in the corporation that du Pont were going to help them out on the convertible top situation."

What does he refer to there?

A. Well, he is putting us on the spot, I guess, with the other executives. He just told them this problem is going to be licked now, we have du Pont Company really working on it.

[fol. 4626] Mr. Neitzert: I offer in evidence DP Exhibit 292, a letter from A. L. Brown to C. A. Alt, dated January 20, 1947, under the caption "Fisher Body Division—Convertible Top Material."

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 292.)

By Mr. Neitzert:

Q. The first sentence is as follows:

"Mr. Fred J. Walker visited the New York office on December 5th and urged us to place ourselves in a position to supply them with sport decking material and Mr. Nickowitz agreed that we would endeavor to do so."

What does that refer to?

A. That was a conversation we had with Mr. Walker in which Mr. Nickowitz had agreed to make the effort.

Q. Did it ever come to your attention during this period that the reason the Fisher Body Company were asking you to develop a Teal for them was because of some combination or conspiracy growing out of the stock ownership in General Motors?

A. No, sir.

Q. The remainder of this letter, your Honor, refers to the specifications which Fisher had given du Pont and problems involved in developing a fabric to meet the specifications that Fisher was urging du Pont to use in developing a new type of Teal-like fabric. I won't read the rest of it.

I offer in evidence DP Exhibit No. 293, a letter from M. N. Nickowitz, to W. S. Lynch, dated January 24, 1947.

[fol. 4627] (Said document, so offered and received in evidence, was marked du Pont Exhibit No. 293.)

By Mr. Neitzert:

Q. What position did Mr. W. S. Lynch hold in the du Pont Company in 1947?

A. Mr. Lynch was a du Pont purchasing agent for fabrics.

Q. Mr. Nickowitz was then the manager of your division?

A. Yes. Mr. Nickowitz was assistant division manager and director of sales.

had been, according to the records, since about 1915, but I do not remember whether we had any contract at that particular time or not.

Q. Were they a customer using large or small quantities?

A. They were relatively small, very much smaller than any of the passenger car units.

Q. Do you know whether you ever supplied General Motors Truck all of its requirements of coated fabrics after 1917?

A. Not unless there was some short period. As a rule, [fol. 4586] they split their business. We had half of it on many occasions, but I have no recollection of ever having one hundred per cent of it.

Q. How long did you continue to sell on that basis to General Motors Truck?

A. As long as they were purchasing, which ran up to about 1925. At that time their purchasing was done for them by the Yellow Truck Company.

Q. Did you make any further sales to the old organization after 1925?

A. No, sir.

Q. Now, let us go to the Fisher Body. What business was the Fisher Body division engaged in during the years 1917 to 1930?

A. What business were they engaged in?

Q. Yes, what did they do?

A. They built automobile bodies. Their big business, of course, was closed bodies, but they did build some open cars in the early days, and on up for quite a number—in fact, they always built open bodies, because they got into convertible models which are open bodies.

Q. Who built open bodies after approximately 1930 for the General Motors car divisions?

A. The Fisher Body built the open bodies, after the old type touring car went out, about 1930 or 1931 or 1932.

Q. Over what period of time did Fisher Body build closed bodies for the General Motors car divisions?

A. They always built General Motors car bodies according to my understanding and recollection.

Q. What use did the Fisher Body make of coated and combined fabrics in the construction of these open and closed bodies?

A. Coated and combined fabric was a product they used to manufacture their tops.

Q. Did the du Pont Company sell any of Fisher's requirements of coated and combined fabrics when you were with the company in 1917?

A. I believe not at that time. It was always very small. It was not until 1922 that I recall we had a fairly good order, and not until two or three years later than that that we really had a big business with them.

Q. What happened about the time you began to get some important business from them?

A. That was in 1925. Fisher Body had used for construction of their tops a pyroxylin material which they bought very largely from Textileather Corporation.

In 1925, they decided to change from the pyroxylin type material to a rubber coated type material. Textileather were not making the rubber coated type material, so it gave a wonderful opportunity for those who were making it to get established. We had brought out just about that time an improved rubber coated Pontop which we marketed under the term "Glazed Pontop."

We submitted that to the Fisher Body, and this occurrence was taking place along about the middle of the year when the change was going to be made for the next season's models, and just about that same time, we had a letter from one of the Fisher Body officials recommending that we consider for employment in Detroit a friend of his, quite an old friend of his, Mr. J. Henry Smith. He said that Mr. Smith was a wonderful salesman, and just happened to be without work at that moment because of the discontinuance of his former connections, and he thought if we employed Mr. Smith, it would be a big help in switching the automobile business, because he was very well acquainted throughout the industry.

[fol. 4588] We considered that at Newburgh and decided on interviewing Mr. Smith, which was done, and he was employed September 1, 1925.

• Mr. Neitzert: Your Honor, in view of the defendants' explanation as to why they got the Fisher business, and why it differs very greatly from that of the Government, and in view of the fact that the Glazed Pontop enters very largely

into our explanation, perhaps your Honor will be interested in a sample of the Glazed Pontop which was brought out by the du Pont Company at that time.

The Court: Does the Government have a sample?

Mr. Neitzert: The Government has seen a sample and expressed very great interest in it. They said they were very glad to have an opportunity to look at it.

If the Government wishes a portion, we can spare a piece off that. They have returned the piece without requesting us to keep part of it.

By Mr. Neitzert:

Q. Was Mr. Smith very successful in selling closed body "Pontop" type to the Fisher Body Company?

A. Yes, he was quite successful. He secured orders for 300,000 yards during the balance of 1925, that is the last three and a half months of 1925, which is about six times as much business as we had got from Fisher in previous years.

Q. How did your sales to Fisher during the last three and a half months period relate to their total requirements?

A. Well, it was a much greater percentage than we had ever had from Fisher.

Q. Did you ever have such a great percentage again?

[fol. 4589] A. Never again, unless it was in 1940, when we had a very large percentage.

Mr. Neitzert: Your Honor, I offer in evidence du Pont Exhibit No. 266, which is a letter from John T. Allmand to du Pont Company, attention of Mr. Henry Lindsey. It is dated July 6, 1925.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 266.)

By Mr. Neitzert:

Q. Mr. Brown, who was J. T. Allmand at this time, in 1925?

A. Mr. John T. Allmand was a vice president of Fisher Body Corporation.

Q. Who was Mr. Lindsey?

A. Henri Lindsey was the director of sales of the Fabrikoid Division of the du Pont Company.

Q. This letter provides that:

"It has just come to my notice that you recently have changed local representatives and as an old friend of mine, Mr. J. Henry Smith, son of the former Senator Smith of New Jersey, is in quest of a position of this nature. He has had wide selling experience, beginning with his father, and his last position was with the Pullman Car Company of Chicago.

"He is a well met fellow and a perfect gentleman and has entree to all the automobile manufacturers and accessory trade, and I think that he would be a very valuable man to you if you could place him in the Detroit territory. If you can consider this request, I would be very pleased to hear from you.

[fol. 4590] "Thanking you very kindly, I remain

"Yours very truly,

John T. Allmand."

Do you know what Mr. Allmand's particular field was as vice president?

A. I believe he was a financial man in Fisher Body.

Mr. Neitzert: I also offer in evidence DP Exhibit No. 267, a second letter from Mr. Allmand to Mr. Lindsey. This letter is dated July 17, 1925.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 267.)

Mr. Neitzert: This letter also contains Mr. Allmand's recommendation that the du Pont Company employ Mr. J. Henry Smith, and comments upon Mr. Smith's qualifications for the job.

I will not read the letter at this time.

I also offer in evidence, DP Exhibit No. 268, which is a letter from Mr. N. P. Wescott, Division Manager of the Fabrikoid Division of the du Pont Company, to Mr. J. Henry Smith. This letter is dated September 1, 1925, and arranges for Mr. Smith's employment with the du Pont Company.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 268.)

Mr. Neitzert: The second paragraph of the letter is as follows:

[fol. 4591] "We understand that you will come promptly into the employment of our Company in the capacity of special salesman to the automobile trade for the products of this Division, including Fabrikoid and Rubbercoated fabrics, and that you will devote your time and energies exclusively to the work of selling, and in all practicable ways aiding us to sell, these products to that trade. In this undertaking, we understand you will make our Detroit sales office your headquarters, but that you will aim to cover the automobile trade generally, working directly with the important customers there and at other points, and working also thru and with the aid of our regular sales force in accord with the exact arrangements which we will later mutually agree upon as being best calculated to result in the largest obtainable volume of sales."

I offer in evidence DP Exhibit No. 269, which is a letter from Mr. Lindsey to Mr. Cathcart, manager of the Fairfield Plant. This letter is dated September 29, 1925, which is just twenty-eight days later than the preceding letter.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 269.)

Mr. Neitzert: This letter refers to an order that Mr. J. Henry Smith had been able to obtain from the Fisher Body Company in the interim.

The last part of the letter reads:

"It goes without saying that these orders are very important due to the fact that they are the first real business we have received from the above customer calling for rubber deck material. We trust that you [fol. 4592] have the necessary raw material in stock and that you can make deliveries as specified."

I also offer in evidence DP Exhibit No. 270, which is a letter from J. Henry Smith to Mr. Lindsey, dated September 30, 1925.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 270.)

Mr. Neitzert: This letter is as follows:

"I surely hope every effort will be made to make positive delivery by November 1st of the Rubber Pontop No. 554, now on order for Fisher.

"I believe as soon as they see the goods in bulk we will obtain additional orders since many in their organization have at least informally expressed themselves.

"They are having a great deal of trouble with Carr——"

By Mr. Neitzert:

Q. Is that another manufacturer?

A. Carr was a competitive manufacturer, making rubber top material.

Mr. Neitzert: (Reading):

"—and I believe we can get a good share of this business. You can ship late in October and date bill November 1st.

"We are working for additional orders before arrival of goods and hope we will be successful on that basis.

[fol. 4593] "Mr. Allmand asked me to tell you we should have some one diligently watch our compound so we will have no trouble on these orders."

I offer in evidence DP Exhibit No. 271, which is a report to Mr. W. P. Allen, general manager of the Fabrikoid Division for the month of October, 1925. The report is dated November 20, 1925.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 271.)

Mr. Neitzert: On page 5 of the report is paragraph under the caption "Sales of Special Significance," which reads as follows:

"Last month marked the beginning of rubber deck material sales to Fisher. This initial order was for 70,000 yards and sales totaling 110,000 have been made since. We have closed with Chevrolet for 1926 first quarter requirements for open cars. * Anaconda has placed an order for a carload of Ventube."

If I neglected to state so, this is the report for October, 1925.

By Mr. Neitzert:

Q. Was Mr. Smith also successful in increasing your sales to other automobile companies, Mr. Brown?

A. May I hear that question again?

Q. Was Mr. Smith successful in increasing your sales to other automobile companies as well as to Fisher?

A. Yes, later on, when we offered a new product, the "Everbright Pontop".

[fol. 4594] Q. What happened with respect to the Fisher account in 1926 following the receipt of these large orders during the last three and a half months of 1925?

A. We continued to get very large orders in 1926. Fisher told us, in fact, that we had about fifty percent of their top business. We thought we had considerably more from our own calculations. It was very large yardage.

Q. Mr. Brown, to what do you attribute this sudden increase in your volume of sales of coated fabrics to Fisher?

A. Well, we had an outstanding product at the psychological moment when they switched over to "Glazed Pontop" material—to rubber top material.

Second, Mr. J. Henry Smith undoubtedly contributed materially in getting in there quickly.

Mr. Neitzert: I offer in evidence DP Exhibit No. 272, which is also a report to Mr. Allen, General Manager of the Fabrikoid Division, a report for the month of May, 1926, dated June 22, 1926.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 272.)

By Mr. Neitzert:

Q. The first full paragraph on page 2 of the exhibit states as follows:

"The proved superiority of our rubber deck materials backed up by special selling effort, has now apparently resulted in securing for Fairfield the major part of the Fisher Body business——"

Did you hear then, or at any other time, that the reason you started making sales to the Fisher Body Company was

[fol. 4595] because General Motors Company had acquired some more Fisher Stock?

A. No, sir.

Mr. Neitzert: I also offer in evidence DP Exhibit No. 273, which is a letter from Mr. J. J. Moosmann to Mr. J. Thompson Brown. That letter is dated October 30, 1931.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 273.)

By Mr. Neitzert:

Q. Who was Mr. J. Thompson Brown, in October, 1931, Mr. Brown?

A. Mr. Brown was the vice-president of the du Pont Company and a member of the Executive Committee.

Q. Who was Mr. Moosmann?

A. Mr. Moosmann was the assistant division manager of our department—assistant general manager, pardon me.

Mr. Neitzert: I will read the second paragraph:

"Prior to the employment of Mr. Smith we were unable to secure any Fabrikoid business from Fisher Body, and for a long time after becoming established as one of their sources of supply we were very largely dependent on him to hold a share of that business."

By Mr. Neitzert:

Q. Mr. Brown, did you see in any of the documents that passed over your desk during this time or in any other document, that any of the business obtained from Fisher was obtained by virtue of any acquisition by General Motors of stock in the Fisher Company?

A. No, sir, I never did.

[fol. 4596] Mr. Neitzert: I offer in evidence DP Exhibit No. 274, which is a letter from Hamilton Bradshaw, Assistant Chemical Director, to Mr. M. N. Nickowitz, dated March 25, 1926.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 274.)

Mr. Neitzert: This letter has reference to the superiority of "glazed Pontop," referred to by the witness.

I will only read the last paragraph:

"Mr. Wescott also told me about some tests made by the Fisher Body Corporation of various rubber-coated top materials. He said that they placed du Pont and Duratex at the top and about on a par, du Pont being slightly better. Chase came next and considerably below these two. Then came Haartz, and lastly Carr. Have you any exposure tests that show any such quality for Duratex? It was my recollection that you placed Chase about on a par with du Pont or perhaps a little below it."

By Mr. Neitzert:

Q. Mr. Brown, we have here referred to "Glazed Pontop" and Mr. Nickowitz yesterday in his testimony referred to "Everbright".

Just what was the connection between those two fabrics, the difference between them?

A. The two products were very closely related. The compound and construction was about the same.

The entire difference was in the finish. "Glazed Pontop" had an all varnish finishing coat, whereas "Everbright" [fol. 4597] Pontop" was a new development that had an asphalt type finish, which proved to have a much longer lasting quality on outdoor exposure. That is, the finish would remain bright over a long period of time without dulling to any appreciable extent.

Q. Did any of your competitors offer a product of equal lustre and durability to "Everbright"?

A. Not for several years. Not until 1929 did they approach it.

Q. To what automobile manufacturing companies did you sell your "Everbright" during this period?

A. We sold the Ford Motor Company, Fisher Body Company, Marmon, Studebaker, International Harvester, all the body companies. In fact, most of the automobile companies who were then making cars at one time or other bought "Everbright Pontop".

We never sold any appreciable quantity, however, to Hudson or Willys-Overland.

Q. What fabrics did this replace in Fisher's use of top materials?

A. A pyroxylin coated material.

Q. I mean what product they bought from us.

A. The Everbright Pontop?

Q. Yes.

A. That replaced our "Glazed Pontop".

Q. That was the top material that Mr. Smith continued to sell to Fisher for the next several years, was it?

A. That is right. The "Glazed Pontop" we brought out in 1925, and the "Everbright Pontop" was introduced in the middle of 1926. We put samples out somewhat earlier, but it was the middle of 1926 when we changed our production from "Glazed" to "Everbright".

Q. All during this period, what percentage of Fisher's requirements of coated fabrics were being bought from the du Pont Company? I mean during this period when you [fol. 4598] were selling "Glazed Pontop" and "Everbright Pontop".

A. Of the entire range of pyroxylin material and rubber top material?

Q. Yes.

A. We probably had well over 60 per cent of it.

Q. What percentage of the rubber top material did you have?

A. We had 80 per cent or more. At one stage there, I think it was in 1927, they bought rubber top material for the Oakland from competition although at that time our product was very distinctly superior. But they figured they needed to keep in another source of supply that could supply rubber top material.

Mr. Neitzert: Your Honor, I offer in evidence Exhibit DP 275, which is a letter to Mr. M. N. Nickowitz from Sales Manager T. A. Nalle, dated May 21, 1929.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 275.)

By Mr. Neitzert:

Q. Is that the Nickowitz that testified here yesterday?

A. Yes, sir.

Q. This letter is as follows:

"You will be keenly interested in the success and popularity which Everbright Pontop has attained. Since its

development, and introduction in 1926, about six million yards have been put in service. In this time it has not been necessary to replace a single original top because of leakage or failure of the Everbright Finish.

"The Plant is now turning out an enormous daily volume. On one day a few weeks ago, something over thirty-seven miles of Everbright Pontop were shipped, [fol. 4599] in addition to the numerous other products manufactured at Fairfield, such as Hospital Sheeting, Leatherette, Gasket Material, Teal, etc. Additions and enlargements are just being completed which will provide increased capacity for new business, which will undoubtedly develop during the next few months.

"Visualize the following procession and you have a picture of the cars which are now being built with Everbright Pontop decks:

"On the road."

Then follows, your Honor, a list including Chevrolet, two models of Chevrolet; four models of Ford; Pontiac; Oldsmobile; Roosevelt; International Harvester; Indiana Truck; Buick; International Motor Company; Paramount; Studebaker; Yellow Cab; General Motors Truck, delivery wagons and cabs.

The following page, under the caption "In Production But Not Yet on Market," there is listed Buick, Marquette, three Studebaker models and three Ford models.

The letter continues:

"We feel that all in the organization can take a just and pardonable pride in the place which Everbright Pontop occupies in the field of deck materials."

By Mr. Neitzert:

Q. By the way, what is meant by deck materials?

A. Deck means the top of the car, the roof, the top piece on the car.

Q. The deck isn't a deck at all. It is the roof, then, of the car?

A. Yes.

[fol. 4600] Q. (Continuing):

"and it is hoped that the above list will serve as a stimulus to the Sales Force to go out and add new names to

it. Information has been received that several high-priced cars will shortly adopt Everbright Pontop. You will be advised as they get on the band wagon.

"Quality, Sales Pressure and Service, coupled with reasonable price, have been responsible for the results. Let us press home the advantage and line up further new accounts until the mill is forced to hang out the 'Sold up' sign."

By Mr. Neitzert:

Q. Which of these models included in the list shown in this letter were built by Fisher?

A. They built the Chevrolet, Pontiac, Oldsmobile, Buick, and Marquette.

Mr. Neitzert: Would your Honor be interested in seeing a sample of "Everbright"? It doesn't look as good to me as "Glazed Pontop".

The Court: Yes, I would like to see it.

Mr. Neitzert: Apparently it is better. Of course, I am not a top specialist:

By Mr. Neitzert:

Q: Now, will you give us the history of your sales to the Fisher Body Company over the years 1926, 1927 and on into the mid thirties?

A. Well, I testified on the latter part of 1925 and 1926.

In 1926 we continued to have the bulk of that business. Early in 1927, Fisher decided to go back to pyroxylin on [fol. 4601] the Buick, which they did, replacing rubber, and we were given the pyroxylin business on the Buick.

A little later in the summer they returned a great many cars to pyroxylin finish, so by the end of the year the only cars using rubber were the Chevrolet and Pontiac on sedans and coaches, which business we had.

Of the pyroxylin business, we had somewhat less than 50 percent. Most of the top business they were giving to Textile-leather.

Then going into 1928, they returned again to rubber top material, except on Cadillac and Buick. The Buick business, we had part of the year on pyroxylin, but it was later taken from us, and we were told that that was being done because of the large volume we had on rubber.

In 1929, competition had begun to approach "Everbright" finish, so that Fisher then split the business among several competitors. We had about one-third of the top business at that time, and it remained that way thereafter until about 1935.

In 1935, of course, Fisher introduced an all steel deck, and by 1936 the entire General Motors line had all steel decks, so there was no top material left for them to purchase other than for convertible models.

Mr. Neitzert: I offer in evidence, if the Court please, du Pont Exhibit No. 276, which is an excerpt from report of Fabrikoid Division to the Executive Committee for the month of February, 1927.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 276.)

[fol. 4602] Mr. Neitzert: This report is dated March 27, 1927. It is as follows:

"Information has reached us this week that Fisher has decided to use pyroxylin coated materials henceforth for Buick jobs. They have been buying approximately some 30,000 yards of 63" rubber material from us each month for this work and it is understood that they expect to begin to secure this business for Newburgh with apparently fair prospects of success."

By Mr. Neitzert:

Q. Did you actually get the business?

A. Yes, sir.

Mr. Neitzert: (Continuing):

"Our business with Fisher on rubber materials for Chevrolet, Pontiac and Olds is apparently not threatened. There have been no complaints from Fisher Body that our rubber material has been defective in any way; and the loss of the business on Buick Models is primarily due to the belief of the Fisher Body engineers that pyroxylin is more desirable than rubber because of its stronger claims to lasting lustre."

Then I offer exhibit marked DP No. 277, an excerpt from the report to the Executive Committee of the Fabrikoid Division for March, 1928.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 277.)

Mr. Neitzert: It is dated April 21, 1928:

[fol. 4603] "In the automotive field, our expectations have recently encountered a severe setback thru the loss to Textileather of probably the major part, and perhaps all, the business in pyroxylin materials for Buick bodies. This business was taken, according to our information, at an extremely low price (reported to be at least ten cents a yard under our quotation) evidently on the policy of sacrificing profits in order to become re-established in the enjoyment of this part of the Fisher business."

I also offer in evidence DP Exhibit No. 278 which is a report from the Fabrikoid Division to General Manager W. Richter dated July 24, 1929.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 278.)

Mr. Neitzert: The first paragraph states as follows:

"Viewing the picture by separate selling field, the main points are as follows: (1) automotive sales of Newburgh products are substantially lower than a year ago. This decline is largely in sales to the Fisher Body Corporation, and results in part from their change from pyroxylin top materials to our Everbright Pontop, and in part from their decision to reduce the pyroxylin business given us because of the very large volume of rubber business that is coming to our company."

I offer in evidence Exhibit DP-279 containing excerpts from a report of the Fabrikoid Division to Richter for February 1929.

[fol. 4604] (Said document, so offered and received in evidence; was marked du Pont Exhibit No. 279.)

Mr. Neitzert: This report is dated March 20, 1929. I will read the first paragraph as follows:

"Recent indications are that the practical monopoly which we have for some time enjoyed on the rubber deck material of durable lustre, may in the future be considerably reduced. Naturally our competitors have been working very actively to overcome this handicap; and while our own tests still indicate a distinct margin of superiority for Everbright Pontop, yet Haartz and others have made substantial advances and the formerly wide gap between their products and ours is narrowing. As an apparent consequence of these improvements, the Ford Motor Company is now buying in small quantities from two competitors, while we are just informed (March 20th) that some part of the Fisher requirements at Cleveland for Chevrolet bodies will be drawn from Haartz. Both these have heretofore been our exclusive accounts on rubber decking for closed bodies. As against these invasions, however, we are fairly well assured of a minimum of 150,000 yards monthly over the next six months from Ford; while we are informed that the new Marquette model, and certain other Buick work (for the past year using Textileather-pyroxylin) will be turned to Everbright Pontop; so that our expectations as to total volume are not diminished, though the price factor may become more difficult. With the aid of the Chemical Department we are still vigorously pushing further developmental work on Everbright, in the hope that we may widen the gap against competitors by further increasing the life of our product; and recent Laboratory results appear encouraging."

By Mr. Neitzert:

Q. While still on this exhibit, I might well call attention to the last part of this paragraph:

"Fairfield sales in February to leading automotive accounts included 156,000 yards to Fisher, 40,000 yards to Chevrolet and 233,000 yards to Ford. A recent development of special interest is the sale to Studebaker

of some 5,000 yards of our new type of colored rubber deck material."

Mr. Neitzert: Now, if your Honor please, I offer in evidence Exhibit DP-280, which is the report to E. S. Nickerson from Mr. H. S. Plank dated December 31, 1930.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 280.)

By Mr. Neitzert:

Q. Mr. Brown, what position did Mr. Nickerson hold with the du Pont Company in December, 1930?

A. Mr. Nickerson was the assistant division manager and director of sales in 1930.

Q. And what position did Mr. Plank hold?

A. Mr. Plank was a supervisor of our trade analysis section.

Mr. Neitzert: If your Honor please, this is an explanation of a trade survey that was made at that time to determine [fol. 4606] how much coated fabric and combined fabric business there was available in the automotive trade, and how much of it was going to du Pont.

I am not going to read this document.

The first document shows how the survey was made by du Pont's development department. It is an important document, but it goes merely to the mechanics of making the survey, and I am going to pass it for a short while, and go to the actual results of the survey.

I pass it only because it is rather long and is of interest only as a foundation piece of material. It will be in the record, if anyone wishes to consult it.

Now, I offer in evidence Exhibit DP 281, which is a tabular summary of a report which is referred to in Exhibit DP-280.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 281.)

Mr. Neitzert: This exhibit is captioned "Comparison of Passenger Car Production with Possible Potential in Auto Field, 11 months—1930."

Q. The second paragraph is as follows:

"We are anxious to cooperate with Fisher in meeting not only their current expanded needs for sport decking but also in working out new improved constructions for their future consumption. We are not unmindful of the fact that considerable effort was expended in the past without success in procuring satisfactory fabrics to meet Fisher's sport decking needs. Our renewed effort, however, comes as a result of a special plea from Fred Walker, Purchasing Agent for Fisher, and Vern Fisher, Body Trim Engineer for Fisher Body."

Your Honor, I offer in evidence DP Exhibit No. 294, a letter from Mr. A. F. Schildhauer to Mr. Brown, dated March 25, 1947.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 294.)

By Mr. Neitzert:

Q. I believe you explained Schildhauer was in the development department?

A. Mr. Schildhauer was technical superintendent of Fairfield.

Q. The first and last paragraphs are as follows:

"In compliance with your recent request, we have developed a suitable combining medium for producing a double texture feel construction for collapsible auto tops for Fisher Body. This is based on neoprene with which we get good adhesion to cotton and the durability will, of course, be very much superior to the old rubber used in pre-war days. Another feature of this combining would be its cleanability with gasoline as well as soap and water."

"We are considering our part of this problem completed for the time being until fabrics can be obtained for preparation of a working sample for submission to Fisher Body."

Did this leave open only the problem of obtaining the proper grey goods to meet Fisher's specifications?

A. Yes, sir.

Mr. Neitzert: I offer in evidence DP Exhibit No. 295, which is an office trade report signed by Mr. Nickowitz, captioned, "Fisher Body Corporation, Detroit, Michigan."

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 295.)

By Mr. Neitzert:

I will read only the first and third paragraphs.

"Mr. Fred Walker of the Fisher Body——"

[fol. 4629] Who was he?

A. He was a buyer of textile products for Fisher Body.

Q. (Continuing):

"—stopped in today to pay us a more or less routine visit, but also to urge us to equip ourselves as soon as possible to supplement their supply of sport top fabrics.

"Mr. Walker told us that Landers had equipped themselves before the war to supply this type of material in competition with Haartz-Mason-Grower and that they have asked them, too, to help them in this instance. However, they would like for du Pont to at least share in this business and Mr. Walker believes that it should be attractive for the long pull."

By the way, your letter to Alt, which has been marked DP Exhibit 292, contains the postscript:

"Based on the quantities estimated, the annual sales volume of this business would be in the neighborhood of \$600,000.00 to \$700,000.00."

Have you ever sold that much Teal to Fisher during any calendar or model year since that letter was written, and since you have obtained a part of the Fisher "Teal" business?

A. No, we have not. The sales in 1948, I remember, were about \$150,000.00, and perhaps a little more than that the following year.

Q. About what percentage of the "Teal" business does that represent with Fisher?

A. Less than half. I don't know exactly.

[fol. 4630] "Q. Have you tried to get any more of it?

A. Oh, yes. We tried to get as much as we could of it.

Mr. Neitzert: I offer in evidence DP Exhibit No. 296, which is a letter to Mr. R. C. Williams, from A. L. Brown, dated October 10, 1949.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 296.)

By Mr. Neitzert:

Q. What position did Mr. Williams hold with the du Pont Company in October, 1949, Mr. Brown?

A. Mr. Williams was automotive sales manager of the Detroit office.

Q. I will read some excerpts from this letter, not the entire letter. This is Mr. Brown's letter dated October 10, 1949.

"As you know, we did not plan to see Mr. Vern Fisher on the trip to Detroit last week. However, Dr. Vaala——"

Who was he?

A. Doctor Vaala was head of the laboratory at Fairfield at that time.

Q. (Reading):

"—However, Dr. Vaala and I encountered him in The Coffee Shop and talked with him in the lobby after that for about half an hour."

Vern Fisher was the body trim engineer?

A. Of Fisher Body, yes, sir.

Q. (Reading):

"No mention was made of price nor your current discussion with him and the Purchasing Department.

[fol. 4631] "Mr. Fisher inquired about the run of rayon/cotton that we are making for him, and Dr. Vaala explained that this particular run would probably not provide any reliable information. It will not be completed at Fairfield within a few days and shipment made."

Skipping over to the middle of the next page:

"Mr. Fisher pointed out the large amount of time that he is spending on the top material problem and he mentioned that their present replacements are running at the rate of \$250,000 a year. He said that if a top shrinks within one year they are replacing it if it is called to their attention."

Skipping the next paragraph:

"Mr. Fisher volunteered the information that our present construction is at the top of the list from the shrinkage standpoint at present and he commented that possibly he should recommend to Purchasing"—

What did he mean there, to Purchasing?

A. Recommended to their Purchasing Department.

Q. (Reading):

"—that we be given all of the business. He followed this up by saying that it would not be a good thing to make such a recommendation. He then said that possibly we should be given the principal part of the business and should tell the competitor what we are doing to control the shrinkage within such narrow limits."

Who did he refer to as the competitor that you are going to inform how to control shrinkage?

A. Haartz Company.

[fol. 4632] Q. (Reading):

"Of course we ducked an answer to that one.

"He mentioned that he had heard that Chrysler has had difficulty with Haartz material and has made a purchase from Goodall. He went on to say that he had tested Goodall material and found it unsatisfactory."

After that period of time, did your sales of "Teal" to Fisher increase?

A. No, they didn't increase in percentage. As a matter of fact, they became less a year or so later.

Q. I notice that you refer there to rayon cotton "Teal" for Fisher for use on higher priced cars. What does that involve? What did you do about it?

A. That was a special textile combination. The top fabric was a mixture of rayon and cotton. The rayon gave it a very pleasant sheen, and they asked us to develop such combination for them, which we proceeded to do.

By the time we had it, we found that they had also asked Haartz to develop the same item, and they were in first with it, and our offering did not prove to be of interest. We didn't get any of that business.

Q. After you had done the development work?

A. Yes, sir.

Q. What happened with respect to the other constructions, "Teal" constructions that you were supplying Fisher? That is, in these later years, when you say the business went down.

A. Well, we had at one time black and some of the tan, but in 1951 we were not given an opportunity to quote on the tan. We were given the black only. We think we have perhaps half the black, but none of the tan. So that our share was perhaps 33 per cent of the total, maybe a little less than that, [fol. 4633]

Q. That is still the situation at Fisher?

A. That is still the situation.

Mr. Neitzert: I offer in evidence Defendants' Exhibit DP 297 and 298.

(Said documents, so offered and received in evidence, were marked du Pont Exhibits Nos. 297 and 298.)

Mr. Neitzert: DP Exhibit 297 shows the dollar sales of coated and combined fabric to Fisher Body Company by the du Pont Company from the year 1923 to 1949, from the sales card.

All of the data on these exhibits are from the du Pont Departmental Trade records, which I have here in my hand and they are available to the Government at all times, and have been.

And that is also true of Exhibit DP 298 except in one exhibit there is shown the dollar sales and the other exhibit shows the yardage sales.

Of course one column on these exhibits contains data we have obtained from the General Motors Corporation. They told us it came from their production records.

Footnote 7 on each of the exhibits is as follows:

"Figures represent closed bodies only 1923-1930."

That was while the witness has testified that the automobile divisions were making their own open bodies.

"but represent all types of bodies, 1931-1949."

We were unable to obtain any further breakdown of this data from the General Motors Corporation.

By Mr. Neitzert:

Q. What parts of these two exhibits did you prepare, [fols. 4634-4635] Mr. Brown?

A. I had nothing to do with the exhibits except that I supplied the footnotes 1 through 7.

Q. Through 6, isn't it? You did not have anything to do with Footnote 7, did you?

A. No. Pardon me, 1 through 6.

Q. We can blame General Motors for that.

A. On the type of bodies, I have no information on that.

Mr. Neitzert: I don't believe it is necessary for me to call attention to any specific figures on here. They show the effect of the events the witness has testified about, both in dollars and in yards. Some of the events are referred to in the footnote. It is too late in the day to read a long series of tedious figures to your Honor unless some one asks me to do it.

Also, if it please your Honor, this completes the testimony of this witness relating to the sales of the car divisions, that is, to the divisions of General Motors that were engaged at one time or another in the manufacture of automobiles, either bodies or the entire automobile.

By Mr. Neitzert:

Q. Have we covered them all, Mr. Brown, all of the General Motors car divisions that buy coated fabrics?

A. Yes, sir, we have.

Adjournment

[fol. 4636] The Court: Proceed, please.

AUBREY LEE BROWN, called as a witness on behalf of the defendant, E. I. du Pont de Nemours and Company, having been previously duly sworn, resumed the stand and testified further as follows:

Direct Examination (Continued).

By Mr. Neitzert:

Q. Mr. Brown, I direct your attention back to your testimony of last week that in 1925 General Motors Corporation bought a 51 per cent interest in Yellow Truck Company, and at that time The General Motors Truck Company then discontinued buying fabrics for its own account and its requirements were bought by the Yellow Truck Company.

Now, prior to that time, which you placed as 1925, had you sold coated fabrics to the Yellow Truck Company?

A. Yes. When I first started in 1917, we were selling "Fabrikoid" to that company. However, at that time its name was the Walden W. Shaw Livery Company. That company manufactured taxicabs, trucks, and were starting to make passenger cars, and they also operated a taxicab service in the city of Chicago.

In 1919 they discontinued operating the taxi service, and the name was changed to the Yellow Cab Manufacturing Company.

About the same time or shortly thereafter, they formed an associated company, the Yellow Motor Coach Company, and we were selling some material to those companies. They were also buying part of their requirements from Chicago Decorative Leather Company.

[fol. 4637] Q. After 1925, what kinds of coated fabrics did you sell to the Yellow Truck Company?

A. In 1925, the company started moving into Pontiac, Michigan. That is the time GM had bought 51 per cent, I believe. The name was changed at that time to the Yellow Truck & Coach Manufacturing Company.

They started then to buy for the entire outfit, that is, their own operations plus the former General Motors Truck Company.

They were buying artificial leather for trim and using it

also on some of the upholstery. In addition, they were using rubber-coated material on some of the tops.

We were selling them artificial leather right along. We didn't do so well on the rubber, as I recall it, until about 1928. We started then and had some of that business for a few years.

Mr. Neitzert: Your Honor, I offer in evidence DP Exhibit 299, which is an excerpt from a report of the Fabrikoid Division to the Executive Committee for April, 1928.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 299.)

By Mr. Neitzert:

Q. This contains the following:

"During the month we secured an initial order at Fairfield from Motor Bodies, Inc., a body builder, for 1,300 yards, and we also secured 15,000 yards from General Motors Truck Company, which formerly had gone to competition."

Was General Motors Truck Company then a division of Yellow Truck?

[fol. 4638] A. General Motors Truck was a division of the Yellow Truck & Coach Manufacturing Company.

Q. What percentage of the business of that division did you get then after 1928?

Mr. Harsha: I would like to object to that question unless it is specified what materials they are talking about.

Mr. Neitzert: The same materials you have described in your next to last question and answer.

Mr. Harsha: My objection, your Honor, was that it was vague, and it is unstated in the question as to what materials they are talking about.

I think we should have some indication as to whether they are talking about top, trim, or what is the nature of the product.

Mr. Neitzert: I am talking about total fabrics sold by the Fabrics Division, which the witness in the question before has itemized.

The Court: Does that answer your question?

Mr. Harsha: No, because he indicated they were getting

practically, as I understood it, all of the trim and upholstery material which would be a "Fabrikoid," and he said they didn't do so well on rubber.

He has introduced a document here which is also vague. It doesn't say they have gotten 15,000 yards—it doesn't state what it is at all, rubber, trim, or what.

The Court: Can the witness explain that?

The Witness: We were not getting all of their trim and upholstery business. We were getting about half, as nearly as I can say, and we were dividing it with a competitor called Chicago Decorative Leather Company.

We were getting none of the rubber business, so far as [fol. 4639] I can recall, until 1928, and the reference in the exhibit is to rubber material, 15,000 yards rubber material that had formerly gone to competition.

By Mr. Neitzert:

Q. Did you attempt to sell the Yellow Truck Company a greater percentage of its requirements of these materials during this period?

A. Yes. Yes, we tried to get all their business.

Q. With what success?

A. We had about 40 percent, I would say, of their trim business—perhaps a third of their total business at that time.

Q. Do you recall the trip you made to Pontiac in the fall of 1940 to try to increase the sales to this customer?

A. In 1940, I recall a trip in the fall of that year with Mr. T. A. Nalle, our Detroit representative. We called on Mr. E. H. Nelson, who was the purchasing agent of Yellow Truck & Coach.

At that time they were using our Cavalon on about half of their production light trucks. They were using an olive drab rubber material that they were purchasing from two of our competitors, L. C. Chase and United States Rubber, on military trucks.

We were attempting to get some of the olive drab business. I recall that Mr. Nelson told us that our price was in line with competition, but he felt it necessary to divide the business, and he was unable to give us any of that particular color.

Mr. Neitzert: Your Honor, I have a few more exhibits in volume 2 that I expect to offer this morning. The first one is DP 300, a letter from Mr. A. L. Brown to Mr. T. A. Nalle, dated March 7, 1940.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 300.)

[fol. 4640] Mr. Neitzert: It reads:

"General Motors Truck & Coach.

"For your information, we are attaching test cards showing results of tests on L. C. Chase, Olive Drab material, compared with 'Cavalon'."

By Mr. Neitzert:

Q. For what purpose were these tests made, Mr. Brown?

A. The tests were made to try to help the sales department in the solicitation of that business.

Mr. Neitzert: (Reading):

"These cards were requested in your trade report No. 41.

"The competitive product is fairly good but the superiority of 'Cavalon' is readily indicated, particularly in the scrub test."

I also offer in evidence DP Exhibit 301, which is a letter from Mr. W. W. Kaminsky to Mr. T. A. Nalle, Fairfield, Connecticut, dated June 5, 1940.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 301.)

By Mr. Neitzert:

Q. Who was Mr. Kaminsky?

A. He was sales correspondent at Fairfield at that time.

Mr. Neitzert: The letter is dated June 5, 1940, and is as follows:

[fol. 4641] "The attached samples showing results of Bomb Aging are supplementary to evaluation of U. S.

Naughahyde Olive Drab Material vs. 'Cavalon' #7030 which we previously submitted to you. The U. S. Naughahyde failed after fourteen days in the bomb whereas 'Cavalon' #7030 #704 Color withstood nineteen days."

By Mr. Neitzert:

Q. What was the purpose of those tests?

A. The same as I just described previously.

Mr. Neitzert: I also offer in evidence as DP Exhibit No. 302, a trade report from Mr. Nalle to the General Motors Corporation, and it is dated November 19, 1940.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 302.)

Mr. Neitzert: The body of the report is as follows:

"Called with Mr. Brown and saw E. H. Nelson. He is interested in extending current 'Cavalon' contracts to August 1st and is anxious that the same price be continued. Mr. Brown agreed to take this up upon his return and advise. (In the meantime instructions have been received from him to extend the contract.)"

"The question of olive drab was also discussed and Nelson indicated that they had released so far this year approximately 70,000 yards of olive drab which is now coming from U. S. Rubber. He further stated that U. S. had agreed at the time of taking the contract to protect them on additional government business. This means that they will not be in the market as of [fol. 4642] January 1st for a new contract on this item we will be fortunate to secure any of this business."

I also offer Exhibit DP No. 303, which is a letter from Mr. A. L. Brown to Mr. Nalle, dated November 20th, 1940.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 303.)

Mr. Neitzert: It reads as follows:

"Referring to our conversation with Mr. Nelson, it is satisfactory to extend the present 'Cavalon' contract

at the present price to the end of July next. Will you please let me know as soon as you have his final O.K.

... With the quantity of Olive Drab material that they are now using, which is running neck-and-neck with 'Cavalon' I hope you will be able to prevail on him to give us a carload or two of it. He can do so and still buy a good quantity from competition since he seems insistent on continuing an outside source of supply."

By Mr. Neitzert:

Q. Do those documents refer to your trip to Pontiac you testified about this morning?

A. They do.

Q. Are you offering this olive drab fabric that was being quoted by your competitors?

A. Yes, we quoted Mr. Nelson a price, and he told us he did not like it.

Q. Did you get any of the business?

A. No, we didn't get any of it.

[fol. 4643] Mr. Neitzert: I also offer in evidence, your Honor, DP Exhibit 304, which is a report from A. F. Schildhauer to F. J. Brannigan, dated December 20th, 1940.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 304.)

By Mr. Neitzert:

Q. What position did F. J. Brannigan hold with the du Pont Company?

A. Mr. Brannigan was office manager at Fairfield.

Q. I call your attention to the first two paragraphs which were comparative tests that had been made to show the comparison of the du Pont olive drab "Cavalon" to the Naugahyde, and then follows the results of the tests, and the last two paragraphs of the letter conclude:

"In general we would say this group of tests indicates that the Naugahyde material is of fairly good quality."

Who was making the Naugahyde?

A. United States Rubber Company.

Mr. Neitzert: (Reading):

"There is one weakness in comparison to 'Cavalon' and that is on edgewear. Of course, we feel that this is an important weakness.

"We do not have bomb aging tests completed although at this writing the Naugahyde has failed at the end of ten days. Our own material is not expected to fail until about twenty days or more have elapsed"——

[fol. 4644] By Mr. Neitzert:

Q. Now, was your olive drab "Cavalon" the fabric you were offering this customer in competition with Naugahyde?

A. Yes, sir, it was.

Q. What was the purpose of making the test referred to in Exhibit DP-304?

A. They were as an aid to the Sales Department.

Q. Did they result in getting any business?

A. No, they did not.

Mr. Neitzert: Now, your Honor, I offer in evidence Exhibit No. DP-305 and No. 306, which are schedules of sales of the du Pont Company to the Yellow Truck & Coach Company.

(Said documents, so offered and received in evidence, were marked du Pont Exhibits Nos. 305 and 306.)

Mr. Neitzert: They were prepared from the du Pont departmental trade records which have been supplied to the Government, and are now in their possession.

By Mr. Neitzert:

Q. I call your attention to the variation in the total sales.

Mr. Brown, could those variations be accounted for by a variation in the volume of production of trucks?

A. Only in a very limited extent.

Q. What accounts for the variation in sales in your opinion?

A. To me it would indicate that the Yellow Truck & Coach Company were giving us considerable more business during some years than they were in others.

[fol. 4645] Mr. Neitzert: I wish to state for the record, your Honor, I was unable to obtain General Motors' production records showing the number of units produced, due to the fact I am told that during this period General Motors was only the majority stockholder of this customer.

By Mr. Neitzert:

Q. Did the Yellow Truck Company use artificial leather for upholstery on any of its trucks in the period 1927 to 1943?

A. No. They used artificial leather on their light weight trucks, but on their heavy duty trucks, they used natural leather. They also used natural leather on buses where material of that type was required.

Q. What happened to that customer in 1943?

A. In 1943, there was another reorganization there, and it became consolidated into the General Motors organization. The name was changed to GMC Truck & Coach Manufacturing Company.

Q. Did you solicit the business of this new division?

A. Yes, sir.

Q. With what results?

A. We were getting about forty percent of the business on the medium and lightweight trucks, but the fact is we were not getting any of the business on the heavy duty trucks or on the motor coaches.

Q. From whom has this division bought its requirements of coated fabrics on heavy trucks and buses since it was formed in 1943 or 1944?

A. Well, at a period about either 1944 or 1945, they replaced natural leather with vinyl coated fabrics, and the heavy duty material, practically all of the heavy duty truck material, went to the United States Rubber Company, whereas the Goodrich Company received the business on the motor coaches.

[fol. 4646] Q. What was the name of the Goodrich vinyl coated fabric used on the motor buses?

A. Their trade name was Koroseal.

Q. Did you attempt to sell the GMC Truck & Coach Division a greater percentage of its requirements of upholstery

on light trucks, and also its requirements of coated fabrics for heavy trucks and buses since 1944?

A. Yes, sir, we have solicited and attempted to get 100 percent of it, but we did not increase our percentage.

Mr. Neitzert: I offer in evidence DP Exhibits 307 and 308, which show the total dollar sales and the total yardage sales of coated fabrics by the du Pont Company to GMC Truck & Coach Division of the General Motors Corporation for the years 1944 to 1950.

These exhibits were prepared as have been the others of this series from the fabrics division sales cards, which are now in the possession of the Government, and truck production figures have been furnished by the General Motors Corporation.

I would like to add that these truck production figures show both heavy trucks and light trucks. We were unable to separate them.

Now, looking at Exhibit No. 307, Mr. Brown, will you state what is the explanation of the large purchases per units that were made from the du Pont Company for the years 1946 to 1947?

A. That was the period when coated fabrics were in very short supply, and during that period the division took all of the fabrics that we could supply to them, and they still hadn't enough.

(Said documents, so offered and received in evidence, were marked du Pont Exhibits Nos. 307 and 308.)

[fol. 4647] Q. Now Mr. Brown, were you selling coated fabrics in 1917 when you went with the Fabrikoid sales department, to any other company other than the Yellow Truck Company that also later became a part of the General Motors Corporation?

A. We were selling coated fabrics to the Martin Perry Corporation that later was purchased by General Motors.

Q. What was the business of that company, and what use did it make of coated fabrics?

A. Martin-Perry was a builder of bodies for trucks. They had plants at York, Pennsylvania, and Indianapolis. The Indianapolis plant in later years, say beginning sometime in

1920, concentrated almost entirely on the light type of bodies which were later known as commercial vehicles.

I don't remember too much about the sales in the early days. I remember we were selling them; and by 1922 we were selling Indianapolis 100 per cent of their requirements, and the material was used for upholstery, artificial leather for upholstery and trim, and some rubber type material.

Q. And how long did you continue to sell the Indianapolis plant 100 per cent of its requirements of these fabrics after 1922?

A. Right straight through until 1930 when they sold out.

Q. When they what?

A. When they sold out to General Motors.

Mr. Neitzert: Your Honor, with reference to the York, Pennsylvania, plant, I offer in evidence DP Exhibit 247 which is an excerpt from the report of the Executive Committee for November, 1922, the Executive Committee of the du Pont Company.

[fol. 4648] (Said document, so offered and received in evidence, was marked du Pont Exhibit No. 247.)

Mr. Neitzert: It reads:

"A visit to Martin-Perry Corp. of York, Pa., reveals complete satisfaction with our goods, deliveries and service. We feel optimistic about securing their next year's business 100% which they forecast at a 50% increase over 1922 with possibilities of doubling 1922."

By Mr. Neitzert:

Q. Do you know whether you ever supplied that plant 100 per cent of its requirements of coated fabrics?

A. I don't recall whether we supplied York fully. We had a substantial part of their business, but I don't recall the percentage.

Q. What happened after General Motors bought the Martin Perry plant at Indianapolis?

A. Well, they started to build, or continued to build, light commercial vehicles at that plant, and the buying was done

for quite a period, through 1935—the buying was done both in Detroit and to some extent in Indianapolis.

In 1935 or early 1936, the purchasing was entirely transferred to Indianapolis. We continued to sell them all of their requirements of artificial leather and some rubber material, the percentage of which I do not recall.

Q. What happened in 1937?

A. In 1937 the upholstery product was changed from artificial leather, "Fabrikoid," to a new rubber type upholstery which had been developed, and at that time we lost 10 per [fol. 4649] cent of the business to United States Rubber Company.

Q. What was the competing product that was purchased from United States Rubber?

A. They called that product Naugahyde.

Q. How long did you continue to have 90 per cent of the business of Chevrolet plant at Indianapolis?

A. It ran along that pattern until 1940 when Chevrolet brought in a couple more suppliers, the L. C. Chase Company, and the Cotan Corporation.

At that time we estimated that we were getting about 60 per cent, beginning in 1940.

Q. How long did you have 60 per cent of the business at the Indianapolis plant?

A. Right straight through until 1948, towards the end of 1948 when there was some more competition came in, and we lost still more of the business.

Q. Did you attempt to hold this business during these years?

A. Yes, we tried to hold it, tried to increase it, but in 1948, the latter part of November, back about the last of November, I remember Mr. Nalle telephoned that he was in trouble with his price quotation there, and it looked like we might not get any of the business that was then up for contract.

I recall going to Indianapolis and visiting Mr. Gleason and Mr. Carlin with Mr. Nalle, on December 2nd. We spent most of the day negotiating with them for this business, during which we reduced the price about 4 per cent, and also agreed to give them the December shipments at the new

lower figure, and on that basis we were awarded a contract which, however, was only for 30 per cent of their requirements, so that we lost about half of what we had previously. [fol. 4650] The Court: The Court stands recessed for fifteen minutes.

(Short recess taken.)

The Court: Proceed.

Mr. Neitzert: I now offer DP Exhibit No. 309, dated September 25, 1940, which contains reference to samples of competing products of U. S. Rubber, Chase, and so on, and quotes a trade report to Mr. Nalle.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 309.)

Mr. Neitzert: This contains the following paragraphs:

"L. C. Chase who obtained the majority of the olive drab business when last contracts were placed have received orders for approximately 20,000 yards. Also Cotan was just recently given an order for 2,000 yards, although no deliveries have as yet been made.

"U. S. Rubber have received orders for about 11,000 yards of the regular production material which is again being tried out on a suburban commercial job.

"In connection with the recent complaint on rapid dulling of the knives in cutting 'Cavalon,' I find that it is not particularly serious. In fact, Mr. Baldauf said that he did not know Carlin had taken it up with us or else he would have headed it off."

Skipping the rest of the paragraph, the report continues: [fol. 4651] "I went into the plant and ostensibly to check this condition obtained samples of Naugahyde, Reddo and Cohyde which are being forwarded to Fairfield so that the laboratory can give them any going over they wish."

Following the quotation of Mr. Nalle's report, the letter continues, and I read one paragraph:

"We suggest that the three samples attached be fully analyzed for the various characteristics or essentials for a good upholstery material alongside of corresponding qualities in 'Cavalon', results to be mounted on cards so that they can be submitted to Mr. Nalle with detailed comments for further discussion when next calling on Chevrolet-Commercial."

I also offer in evidence DP Exhibit No. 310, a letter from Mr. Nalle to Mr. Brown, dated May 9, 1947. This is captioned "Chevrolet-Indianapolis."

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 310.)

Mr. Neitzert: The fourth and last paragraphs of this letter are as follows:

"I have been assured that so far we have not lost any business through color difficulties, and that we are still being given the same percentage as at the beginning of this model. I am quite sure our percentage is a minimum of 50, with the balance being divided between U. S. and Textileather."

[fol. 4652] By Mr. Neitzert:

Q. You said your estimate was 60 per cent, is that right?

A. Yes, that was my estimate.

Q. (Reading):

"I understand that the material coming from these two sources is also no model of color uniformity, and I am sure they are having to use broken twills, etc. Although I do not know definitely, I am of the opinion that Textileather is not supplying too much, and it is my expectation that our percentage will actually increase as the model goes along.

"You will remember that we ran into this multiple-source situation during the war years, for a combination of reasons with which you are familiar. During the recent period of scarcity the purchasing agents have been working under instructions to maintain several

sources for their own protection, and frankly I do not think we can expect an immediate change in that policy."

As a matter of fact, Mr. Brown, when did you run into the multiple-source situation with Chevrolet Commercial?

A. We had had all their artificial leather or upholstery business from the time Martin Perry had the plant, on up until 1937.

At that time we lost part of the business to the United States Rubber Company, about 10 per cent of it. In 1940 we lost an additional quantity to other suppliers, L. C. Chase and Cotan Corporation.

I assume that is what he is talking about.

[fol. 4653] Q. He also refers to a period of scarcity of coated fabrics. How long did that period last?

A. That lasted well into 1947, from the latter part of 1945 to 1947.

Q. Then what happened, when that period of scarcity ended?

A. Well, when it ended, we ran into the 1948 period when there were either seven or eight approved sources, and we lost additional business in 1948, so our percentage then was down about 30 per cent, and it remains that figure as of today, still about that.

Mr. Neitzert: If the Court please, I offer in evidence Exhibits DP 311 and 312 which show the dollar and yardage sales of coated fabrics by the du Pont Company to the Chevrolet Commercial Division. These are from the departmental trade records of the Fabrics Division, except for the truck production figures which have been supplied by the General Motors Corporation.

Reference is made to the dollar sales per trucks manufactured shown in the last column of Exhibit DP 311, in connection with the witness's testimony about the development since the period of scarcity.

By Mr. Neitzert:

Q. Mr. Brown, will you please refer to DP Exhibit 312 and explain, if you can, the fact that there was an increase in the yardage per car purchased from du Pont in 1937 and

1938 in the light of your testimony that you lost ten per cent of the business during that period.

A. Well, there was a slack period when they changed from the pyroxylin coated upholstery material to the rubber-coated upholstery material. The rubber-coated material was [fol. 4654] much better suited as an upholstery. It would stand flexing many times the extent that pyroxylin would.

As a result, there were certain portions of the cushion on which they had previously used pyroxylin on which they could now use the "Cavalon" successfully, and they did that.

Q. What was the result of that?

A. I beg your pardon?

Q. What was the result?

A. The result was to increase the average usage per truck.

Q. Did you mention the price of Cavalon as compared to the fabric formerly used?

A. I have not mentioned it.

Q. Will you do so?

A. "Cavalon" was a higher priced product than "Fabrikoid."

Q. I also refer you, Mr. Brown, to the same column of DP Exhibit 312 as to the years 1940, 1941 and 1942. Which of those years was the first full year that you received only 60 per cent of the business?

Mr. Harsha: I object to the form of the question.

Mr. Neitzert: He testified in 19.

Mr. Harsha: It is leading and suggestive.

Mr. Neitzert: I am not leading. I am just repeating what he testified to.

The Court: Overruled.

By the Witness:

A. 1941 was the first full year.

Mr. Neitzert: Your Honor, there is one typographical error in these exhibits, DP 311 and DP 312, which I did not catch when the exhibits came back from the printer. Note [fol. 4655] 1 on each of the exhibits starts out "From 1930 through 1939, Chevrolet Commercial used coated fabrics purchased by the parent Chevrolet Division."

The year "1939" is a typographical error. It should be 1935.

Q. Were there any other General Motors car or truck divisions that were using coated fabrics during the periods that have been covered by your testimony other than the ones that you have now referred to?

A. No, there were none.

Q. I have a few questions, then, to ask you about the sales to the Ford Motor Company. Were you selling coated fabrics to the Ford Motor Company from the Fabrikoid sales department in 1917?

A. Yes. We had at least half of the Ford business.

Q. How long did you continue to sell to Ford?

A. Well, we are still selling to Ford. In that period Ford decided, either in 1918 or 1919, to make their own coated fabrics, and we lost a substantial part of their business. Their plant had not got into operation, and they had started in operation in 1920 or 1921, and were probably in full operation in 1921 or 1922. However, we continued to get quite a good bit of the rubber top material and on occasions some of their artificial leather business. That went on through about 1928.

At that time, Ford adopted our "Everbright Pontop" for decks of closed cars, and we had their business 100 per cent in 1929 and 1930.

(Said documents, so offered and received in evidence, was marked du Pont Exhibits Nos. 311 and 312.)

[fol. 4656] Mr. Neitzert: If your Honor please, I offer in evidence DP Exhibit 313.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 313.)

Mr. Neitzert: This is an excerpt from the report of C. W. Phellis, General Director of Sales for February, 1921, dated April 2, 1921. It refers to "a purchase of 900,000 yards of rubber by the Ford Motor Company bought early last fall."

I also offer in evidence DP Exhibit No. 314, which is an excerpt of a report to C. W. Phellis, General Director of Sales for April, 1921, dated June 8, 1921:

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 314.)

Mr. Neitzert: The last sentence which refers to the previous portion is:

"Ford will not be required to buy coated fabrics for some months as he is operating his own manufacturing plant to the full capacity, and he has taken in several hundred thousand yards of material from ourselves and others."

I also refer to Government's Trial Exhibit No. 417, a report to the Executive Committee, dated June 9, 1921.

This report is dated May 31, 1921. The first paragraph reads as follows:

"April gave us the most encouragement we have had for months. This was chiefly due to Ford Motor Company orders, although exclusive of these there would [fol. 4657] have been some improvement over March conditions, March having in turn shown an appreciable improvement over February."

I also offer in evidence DP Exhibit No. 315, an excerpt from the report of the Fabrikoid Division to the Executive Committee for May, 1923, dated July 2, 1923.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 315.)

Mr. Neitzert: It reads as follows:

"Ford Motor Company are now manufacturing at their own plant between 55,000 and 60,000 yards of leather substitute daily."

I offer in evidence DP Exhibit No. 316, which is a report of the Fabrikoid Division to the Executive Committee for September, 1928, dated October 20, 1928.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 316.)

Mr. Neitzert: It reads as follows, and I quote:

"Ford Motor Company have approved Fairfield 'Everbright Pontop' for certain closed car work and we have induced the Ford Company to change a recently received 50,000 order for Pyroxylin Double Texture

material to Fairfield 'Everbright Pontop' at a saving of \$12,000 to them and an increase in profit to our company. We feel reasonably sure that we shall continue to receive a steady volume of business from Ford."

[fol. 4658] I refer your Honor to DP Exhibit No. 278, which has previously been received in evidence, which is a report to the General Manager, Richter, from Fabrikoid Division, dated July 24, 1929, and I will now read the second paragraph of that exhibit which has not heretofore been read.

"At Fairfield, in the automotive division, the largest individual account, namely, Ford Motor Company, is apparently still on the upgrade. It may be interesting to note that we recently received all of the orders for Ford's closed car deck material placed for their regular July purchases. Other automotive accounts are holding up well, and it is expected that the July final billings will be slightly in excess of those for June, while August should show about a ten percent increase over July. Beginning with September, a gradual curtailment in automotive business is expected during the remainder of the year."

I also offer in evidence DP Exhibit No. 317, an excerpt from the report of the Executive Committee of du Pont Company for October, 1929.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 317.)

Mr. Neitzert: It is as follows—

Mr. Harsha: Pardon me, Mr. Neitzert. I wonder if you would read the last portion of DP 278 for the record.

Mr. Neitzert: I thought I did. I thought I did before.

Mr. Harsha: I don't know whether it is now in.

[fol. 4659] Mr. Neitzert: If it is not, I intended to read it previously.

Mr. Harsha: I will withdraw it.

Mr. Neitzert: (Reading):

"An encouraging factor is our present enjoyment of the entire Ford business in black deck material; and we

are hopeful that Fairfield's automotive business for 1930 will be reduced by less than 25% from the 1929 volume."

I also offer Exhibit No. DP-318, an excerpt of the report to General Manager Richter for the month of November, 1929, this report being dated December 17, 1929.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 318.)

Mr. Neitzert: I refer only to two sentences, namely;

"The Ford Motor Company's requirements are estimated at four carloads weekly, though just when shipments on this basis will begin is uncertain."

And the last sentence:

"The Ford artificial leather plant is again being actively offered for sale."

I offer in evidence Exhibit DP 319, a report by C. W. Weaver to J. J. Moosmann, captioned "Mr. Richter's Letter of January 4 Sales Percentage 1929 - 1931".

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 319.)

[fol. 4660] By Mr. Neitzert:

Q. Mr. Brown, what position did J. J. Moosmann and C. W. Weaver hold with the du Pont Company, or what positions, with the du Pont Company in 1929, 1930 and 1931?

A. Mr. Moosmann was the assistant general manager of the department in Wilmington; Mr. C. W. Weaver was division manager of Newburgh, of the Fabrikoid Division.

Q. Who prepared this report, if you know?

A. I prepared it.

Mr. Neitzert: I only want to refer to one paragraph of the report, the one at the top of page 4 which is as follows:

"Automotive volume at Fairfield declined 64% or \$2,892,000. In 1929 Ford produced 1,946,000 jobs as compared with 725,000 in 1931. In 1929 we had the Ford business 100% as we had no real competition from the rubber industry on our Everbright finish. In 1931 Ford

did no buying after May. Up to that time we had about 50% of his business. General Motors volume dropped \$918,000 due chiefly to drop in production but partly due to production of a satisfactory varnish finish by our competitors, resulting in Fisher, as well as Ford, splitting their purchases. In 1929 we sold 80% of all rubber deck material used by all manufacturers. In 1931 this percentage will be around 65%. As a result of the imitation of Everbright by competitors our margin of profit on this business has been substantially reduced. Recently we have secured Packard's business on Super-Everbright and are quite hopeful of securing some Studebaker business."

[fol. 4661] By Mr. Neitzert:

Q. Now, what happened in the 1930's with reference to this Ford account?

A. By that time competition had products that were reasonably close to our "Everbright Pontop" and we lost part of the Ford business.

Q. Have you continued to sell some orders to Ford throughout the years, since 1930?

A. Yes, we have continued to sell Ford off and on. He, however, has made most of his own material. Since the war we have sold him a few orders too, and right now we are selling Ford 60 or 70 thousand dollars worth a month, right at the present time.

Q. I want to ask you a few questions about the Willys-Overland Company. Was the du Pont Company selling to that company in 1917?

A. Yes, we were selling very large quantities of the material in 1917, at least half of their requirements of both artificial leather for trim and top material.

Q. How long after 1917 did you continue to have that business?

A. Not too long in great volumes because in 1918 Mr. Willys decided to make his own coated fabrics, and for that purpose either he or the Willys-Overland Company bought into the Duratex Company, and we lost a substantial part of the business. I do recall, though, in 1924 we still had about a quarter of a million dollars worth of business from Willys-Overland.

Mr. Neitzert: I offer in evidence Exhibit DP 320, an excerpt from the report of the du Pont Fabrikoid Company to F. W. Pickard for the month of January, 1919.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 320.)

[fol. 4662] By Mr. Neitzert:

Q. What position did F. W. Pickard hold with the du Pont Company in 1919, Mr. Brown?

A. Mr. Pickard was vice president of the du Pont Company in charge of sales.

Mr. Neitzert: This excerpt is as follows:

"While actual sales at present are small, general conditions are good and appearances indicate that business is assuminig a proper basis. Inquiries are good in all lines. In January, we sold 30,000 yards to the Go-Cart trade, and this business is picking up very rapidly. In the automobile field, we sold 94,500 yards of Rubber to Oldsmobile; 10,000 yards to Auburn; 157,500 yards to Willys-Overland and have secured revival of old orders by Chevrolet to the amount of 623,000 yards of Fabrikoid and 300,000 yards of Rubber.

"The general price conditions are very much unsettled. Duratex Company is being equipped for the manufacture of Rubber coated material and expect to produce this within the next six weeks. The Duratex Company is the first source of supply of Willys-Overland Company."

By Mr. Neitzert:

Q. Now, a few questions about Chrysler.

Has the du Pont Company sold any artificial leather or top materials to the Chrysler Corporation since you have been with the company?

A. Yes, we have. Chrysler Corporation was not formed until 1925 when Mr. Walter P. Chrysler merged the Maxwell Motor Company car with the American Body Company [fol. 4663] to form the Chrysler Corporation. Later on he added the Plymouth, DeSoto and Dodge, and some other elements. We have never sold them very much artificial leather, although in 1927 we had quite a bit of business, but

we did sell them their top material beginning in 1925. We sold them our "Teal". We continued probably ten years to be an important supplier of that type of material to them.

However, in 1926 we lost part of the business when Haartz Company quoted—their price was running about 15 cents a yard under ours at the time, and we maintained the bulk of business, but did lose some of it in 1926, '27 and '28.

Q. I call the Court's attention in that connection to DP Exhibit No. 272, which has been received in evidence. It is a report to General Manager Allen, dated June 22, 1926, and I merely call attention to this sentence at the top of page 4:

"The Haartz Auto Fabric Company has taken part of the Chrysler Teal business at a price 15 cents below ours."

Did you continue to sell "Teal" to Chrysler and have some of the business, although your price was 15 cents higher than the Haartz' price?

A. We did, yes, sir, for several years.

Q. Did the combined fabrics sold by Haartz differ from du Pont "Teal" in any respect?

A. Yes. It was inferior to "Teal" in that our product retained its color better on aging outdoors.

Q. I again refer to DP Exhibit No. 286, which has been [fol. 4664] received in evidence, and which is a report showing sales of "Teal" by du Pont Company to certain customers during the years 1929 to 1933 inclusive, showing the Chrysler sales at 36,194 for 1929, 18,672 for 1930; 23,366 for 1931; 30,111 for 1932; 8,326 for 1933, the sales on the average being considerably larger than the sales to Fisher.

A. I might say, sir, that those figures are yards. It would have been considerably higher than this figure in dollars.

Mr. Neitzert: Thank you. —

I offer in evidence DP Exhibit No. 321, which is a schedule of dollar sales of coated and combined fabrics from the du Pont Company to Chrysler from 1925 to 1934, inclusive.

These data are from du Pont departmental sales cards.

(Said document, so offered and received in evidence, was marked du Pont Exhibit No. 321.)

By Mr. Neitzert:

Q. Have you sold coated fabrics to Chrysler in any quantity since 1934?

A. Not in any substantial quantity. We have sold them an occasional order.

Q. Has the du Pont Company sold coated fabrics to automobile manufacturers other than the General Motors Companies, Ford, Chrysler, and Willys-Overland, since you have been with the company?

A. Yes. Since I have been with the company we have from time to time sold almost all automobile companies. I would say our largest sales have been to Ford and Willys-Overland and General Motors, Chrysler, Nash, Marmon, Packard, Paige, Pierce-Arrow, Reo, Huppmobile.

Q. Have any of these customers over this extended period of time bought as large a percentage of their requirements [fol. 4665] of coated and combined fabrics from the du Pont Company as has the General Motors Companies?

A. For short periods of time, yes, but over the entire period of 36 years, since I have been associated with the business, no.

Q. Mr. Brown, will you please state why you have sold over a long period of time a greater percentage of General Motors' requirements than the requirements of other companies?

A. Well, that is due to a number of circumstances. When I went with the company in 1917, the division was the largest manufacturer of coated fabrics in the United States. At that time we had established a very fine reputation for quality due, at least, partially, to the fact that the du Pont Company had for very many years been an important user of nitrocellulose, which is the basic coating ingredient used in Fabrikoid.

We were selling at that time to most of the automobile manufacturers, and I would suppose we were selling perhaps half of the material of coated fabric types being consumed in automobile manufacture.

Of course, the automotive industry then was quite different from the industry as we know it today. There were practically scores of smaller companies that were making a hundred cars a year or less, but there was emerging a group of large manufacturers, those being at that time—that is, before 1920—Ford, Buick, Chevrolet, Willys-Overland, and Metz.

Those companies had very large production because their management had been able to take advantage of the assembly line principle of manufacture. The success of the assembly line was dependent upon having very dependable sources of supply.

The companies had neither the space nor the capital to carry the very large inventories that would have been required unless they had a source of supply that could deliver material on schedule and material of a type that would pass inspection without rejection.

The du Pont Company had a reputation that fitted in with that program, and at that time we were the largest source of supply for the three companies who were making 100,000 cars a year or more, in 1917. They were Willys-Overland, Ford, and General Motors.

Those companies that were using the assembly line and producing large quantities were very insistent on the problem of keeping up to schedules. You just had to deliver material at the rates they said they were going to need it, and we knew that, and we did it.

They also were interested in purchasing from a company that they knew would keep up-to-date technically in its products. The product had to be right; the quality had to improve as it was possible to improve it; and the company had to do a certain amount of continual work in the matter of finishes, grains and colors to keep the line attractive—that kind of development work was especially important to the smaller manufacturers. Getting into the '20's, the three big companies that emerged, of course, were Chrysler, Ford and General Motors. They at that period, or not long after that, were supplying 85 per cent of the passenger car production in the United States, and still are.

A great many of these smaller concerns went out of business during that period. Those that remained tended to

[fol. 4667] depend upon something distinctive or unique in the way of design as a competitive factor.

When Chrysler came in, in 1925, they selected independent sources of supply, different from those that were then selling to Ford and General Motors. The smaller concerns were not anxious apparently to purchase from the concerns that were supplying the Big Three, their big competitors, because they wanted concerns that would work pretty closely with them and perhaps were concerned that they wouldn't be taken care of in the event of scarcity.

Q. Did you receive reports through your salesmen from these smaller concerns that they would prefer not to buy from the principal supplier of Ford and General Motors?

A. Yes. That happened right along. We always felt that it put us in a rather difficult position because we were the principal supplier of both Ford and General Motors.

Q. What about Willys-Overland and part of the Ford business that you didn't get?

A. They attacked the problem in different ways. Ford Motor Company, as I testified, decided to make the bulk of their own material, which they did, beginning in the early twenties, about 1920.

Mr. Willys also went into the part ownership of the Dura-tax Corporation to take care of their materials.

Q. What reports did you receive concerning Chrysler?

A. Chrysler established independent sources, different from those that were supplying big competitors. At that period, General Motors were buying from the du Pont Company, also from Textileather Corporation, Federal Leather Corporation, and Haartz.

Ford was making most of their own, but depended also [fol. 4668] on the Cotan Corporation and on the du Pont Company.

Chrysler established as their principal sources the Standard Textile Products Company and the Zapon Company.

Q. Were either of those companies supplying Chrysler principal sources of supply to either Ford or General Motors?

A. They were not, no sir.

Q. You have referred to General Motors suppliers. Will

you give us your best estimate of what percentage of the General Motors total requirements of coated and combined fabrics have been purchased from the du Pont Company over the years since 1917?

A. Well, the percentage since 1917 would run ~~thirty~~ to forty percent, in that neighborhood. We never had as much as fifty percent except in the years when Fisher Body sales were very heavy. Those were 1926, 1927 and 1928, and again in 1940 and 1941.

Over the long period, I would say we had about a third of that business.

Mr. Neitzert: Your Honor, I propose now to take up the one remaining subject that I have to discuss with this witness, and some Government exhibits. Do you wish to adjourn?

The Court: If it won't greatly inconvenience counsel, I would rather run until about to a quarter to one, and convene at a quarter past two.

Mr. Neitzert: That is very satisfactory.

By Mr. Neitzert:

Q. Mr. Brown, I call your attention first to Government Trial Exhibit No. 420, which is dated August 10, 1921.

[fol. 4669] I show you the following language appearing in that exhibit, and I quote:—

I might state, your Honor, this is a letter which appears to have been written by Vice President Lammont du Pont to Mr. P. S. du Pont.

The first paragraph of the letter is:

"Sometime ago you inquired whether General Motors was taking its entire requirements of du Pont products from du Pont. My understanding at that time was that they were not. I have made inquiry and find the situation at present is as follows: (C. K. means that du Pont is enjoying all the business in their respective lines. Where I specify 'No reason,' there appears to be no reason for General Motors withholding the business from us. Where I say 'With good reason,' there is a logical explanation)."

Then follows a table with the list of the General Motors companies or divisions, and data as to purchases, using the symbols referred to in the preceding paragraph.

I call your attention particularly to the columns captioned "Fabrikoid" and "Rubber Cloth."

Did the du Pont Company hold any contracts with any General Motors companies or divisions providing for delivery of coated fabrics that were made during the year 1921?

A. We did not, unless a very small amount. We did not make any of the usual contracts calling for six months or a year during 1921.

Q. When were the last contracts made with the General Motors companies prior to the date of this letter, August 10, 1921?

A. In the spring of 1920.

Q. And over what period were deliveries to be made under these contracts?

A. Those contracts, some of them, called for delivery the [fol. 4670] last six months of 1920, and some ran from July 1st, 1920, to June 30, 1921.

Q. What was the situation when those contracts were made, Mr. Brown? I mean as to the situation of the buyers as far as coated fabrics was concerned?

A. The companies in general had over-estimated their sales in 1919 and had carried over quite large inventories. Despite that, their business was extremely good at that time. Commodity markets were very tight. Materials were tight. They thought there would probably be a scarcity, and for those reasons, in 1920; despite high inventories, they made very large contracts with us.

Q. What happened to those large contracts?

A. Those large contracts in general were delayed in delivery,—they were deferred because sales in early 1920 began to fall off sharply. By the middle of the year they were very far down.

Q. I refer now to Government Trial Exhibit No. 308, and to the following language on the second page. That is a letter from vice president Pickard of the du Pont Company to J. A. Haskell, vice president of General Motors, referring to the Buick 1920 contract.

The language I wish to read on the second page is as follows:

"I understand from our conversation that the Buick people expect to begin almost immediately to order out material under the contract in question."

To what contract does that refer?

A. That contract was the one taken in the spring of 1920, and called for delivery beginning July 1, 1920.

[fol. 4671] Q. Now if, as appears in this exhibit, no deliveries had been made in July and August, or the first half of September, from whence had Buick obtained its requirements of these fabrics during that period?

A. They were still using the inventories accumulated from the 1919 contract.

Q. I also refer to DP Exhibit No. 314, which has already been admitted in evidence, and the following language:

"Many of the automobile companies have used up practically all of the stocks on hand, and as a result are purchasing material, although in considerably less quantity than last year."

Now, what stocks on hand are there referred to?

A. They were the stocks left over from the 1919 contract.

Q. I call the Court's attention to the fact that this document is dated June 8, 1921, only two months prior to Government's Trial Exhibit No. 420, which is the subject matter of this examination:

The exhibit continues:

"We have recently secured fairly large releases from the Chevrolet Motor Company, and some releases from Buick."

What releases are there referred to?

A. Those are the first releases against their 1920 contract.

Q. Exhibit No. 420 appears to indicate that Buick was buying all of its requirements of artificial leather from du Pont in August, 1921.

At that time did du Pont Company have a contract to supply the Buick Motor Company with all of its requirements of pyroxylin coated fabrics?

A. No, sir, we did not.

Q. What percentage of Buick's requirements of pyroxylin [fol. 4672] coated fabrics was covered by the 1920 contract?

A. The 1920 contract of pyroxylin, I believe, I testified, was about one-third of their requirements of "Fabrikoid."

I have recently looked over a schedule of the actual contracts made in that period, and our pyroxylin contract with Buick amounted to about 180,000 yards, which was only a small portion of what they would have used even in a six months period.

Q. Your Honor, I call attention to Exhibit DP No. 295. This exhibit shows that in 1922, when Buick bought all of its requirements of artificial leather from du Pont, its purchases amounted to \$4.20 per car; and that in 1921, its total purchases of artificial leather and top material from du Pont amounted to only \$2.12 per car.

What do these data indicate to you, Mr. Brown, as to the percentage of Buick's requirements of artificial leather that were being purchased from du Pont in 1921?

A. Well, as we were making deliveries in 1921 against the rubber contract, it means to me definitely that we couldn't have been selling very much artificial leather at that time.

Q. Do you know whether the contract dispute that was settled in 1922 with Buick's agreement to buy all of its requirements of coated fabrics from du Pont also involved the "Fabrikoid" or artificial leather contract?

A. No, that contract was not involved. It was a small contract.

Q. I also refer to Government Trial Exhibit No. 306 and to Exhibit DP 252, which is Petze's memoranda which has been offered in evidence, relating to the Buick contract, and which contains the following language. This is dated July 28, 1920:

[fol. 4673] "... an order for 1,300,000 yards of deck and curtain material, and were told that this represented $\frac{2}{3}$ of the total quantity required, which on this basis would be 1,950,000 yards.

"This order was later on reduced to 780,000 yards, so that our competitor, Haartz, who received the order

for the balance of the requirements, received an order for approximately 1,150,000 yards."

Do you have any knowledge where the author of Government Trial Exhibit No. 420 obtained the figures or data that are in that exhibit?

A. No, I do not know, sir. It certainly is not an accurate statement.

Q. With reference to the statement that du Pont was supplying Buick with 60 per cent of its top material, what does Exhibit 252 indicate to have actually been the fact?

A. Well, they started off with supposedly two-thirds, but Exhibit DP-252 indicates definitely that we sold less than half really.

Mr. Brown, Government Exhibit No. 420 also appears to indicate that Oakland was buying all of its requirements of artificial leather from du Pont in August, 1921.

Did you have a contract in 1921 to supply Oakland with all of its requirements of pyroxylin coated fabrics?

A. We did not, no, sir.

Q. What percentage of Oakland's requirements of artificial leather were covered by your 1920 "Fabrikoid" contract?

A. The percentage was pretty small. I believe the actual contract was about 20,000 yards, and that must have been a small percentage of their requirements.

Q. Was that contract involved in the dispute with Oakland about the 1920 contract?

A. No, that dispute involved rubber contracts only.

[fol. 4674] Q. Now, Government Trial Exhibit No. 420 also indicates that General Motors Truck was buying all its requirements of artificial leather and rubber cloth from du Pont in 1921. Was that true?

A. I am not certain about the 1921 sales of General Motors Truck. I know we didn't sell them anything in 1922 at all, but I don't recall 1921.

Q. If sales were made, were quantities large or small?

A. They would have been fairly small, because their requirements were not heavy in that period.

Q. I refer to General Motors Trial Exhibit No. 151, which shows that no purchases were made of either type of material or imitation leather by the GM truck division during the year 1922.

Now Mr. Brown, will you please refer to Government's Trial Exhibit No. 460. You previously examined this exhibit in my office?

A. Yes, sir.

Q. Do you recall what is in it? If you don't, glance through it again.

A. Well, it is—

Q. No, I am not asking you to state what it is. I want you to be familiar with its contents, if you are not.

A. Yes, I saw it.

Q. Will you please state whether that exhibit contains a correct statement of your sales of coated fabrics to General Motors Company in the twelve month period ending June 30, 1926, which this exhibit purports to cover?

A. No, it does not contain correct information.

Q. In what respect is it incorrect?

A. Well, in the first place, it does not purport to show sales of combined uncoated material, and that type of material, I believe, was being consumed in large quantities at that time, and we did not participate to any extent in that volume.

Then under General Motors trucks it shows that they were taking all of the requirements of "Fabrikoid" and rubber. Actually in this period General Motors Truck was not making purchases, because after 1924 they were supplied on contracts placed by the Yellow Truck & Coach Manufacturing Company.

On Cadillac, the statement would indicate that we were selling everything that Cadillac was using in that period. Cadillac was not using anything because they discontinued manufacturing open cars in 1924.

Mr. Neitzert: If the Court please, I refer to Exhibit DP-260 which shows Cadillac total purchases in 1925 were \$85, and in 1926 \$41, from the du Pont Company.

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Supreme Court of the United States

OCTOBER TERM, 1943

No. 3

UNITED STATES OF AMERICA, APPELLANT,

vs.

E. I. DU PONT DE NEMOURS AND COMPANY, ET AL.

**APPEAL FROM THE UNITED STATES DISTRICT COURT FOR THE
NORTHERN DISTRICT OF ILLINOIS**

FILED JUNE 14, 1945

PROBABLE JURISDICTION NOTED OCTOBER 10, 1945

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